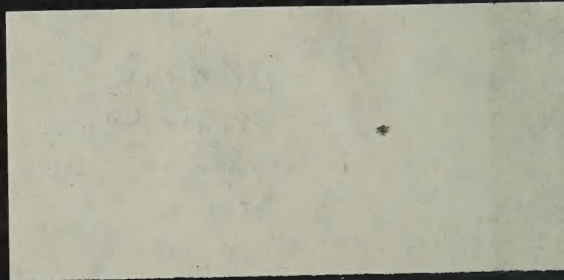


Other
models -
other
side



MODEL Radiola II

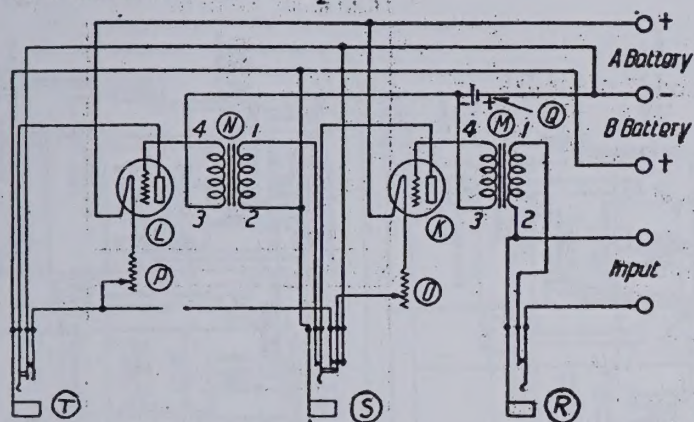
MODEL Radiola III

MODEL Radiola

Balanced Amp.

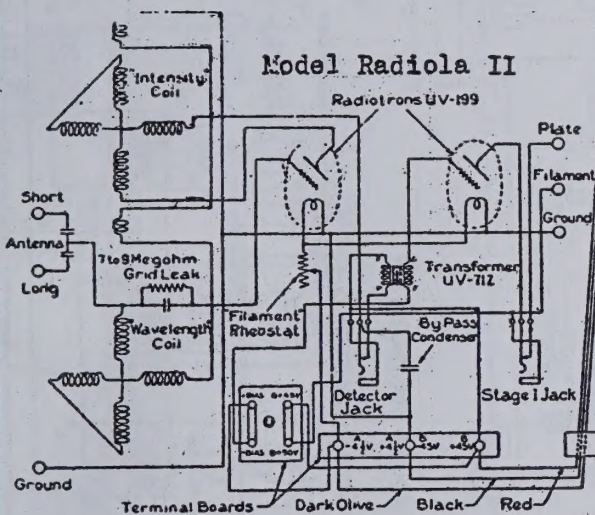
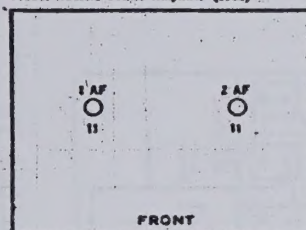
MODEL Radiola Sen. Amp.

R. C. A. VICTOR CO., INC.



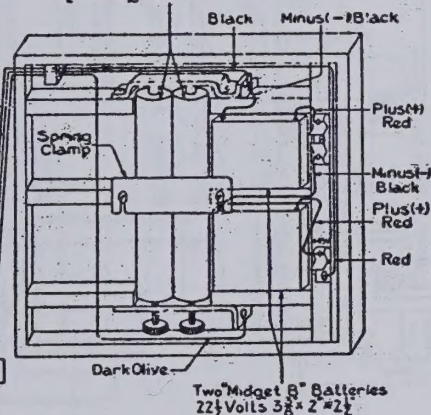
Model Senior Amp.

Model Radiola Senior Amplifier (1922)

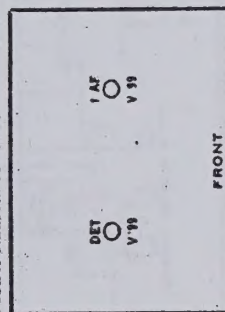


Model Radiola II

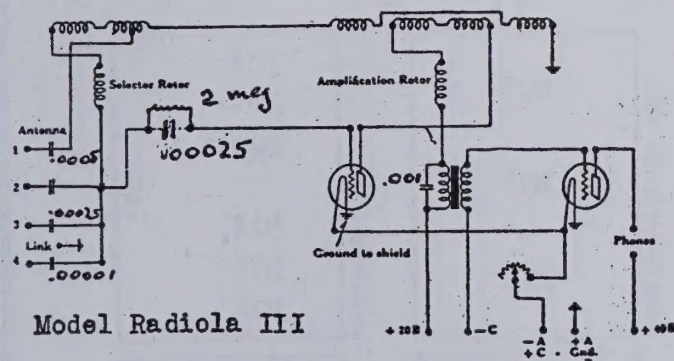
Two Flashlight Batteries
4½ Volts 1½ Dia. 7"



Model Radiola II (1924)

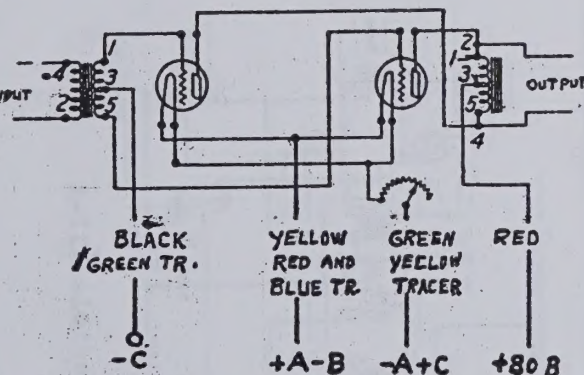
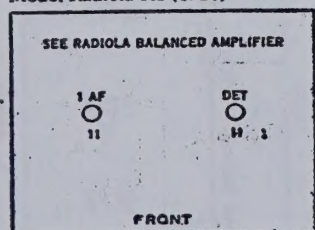


Model Balanced Amp.

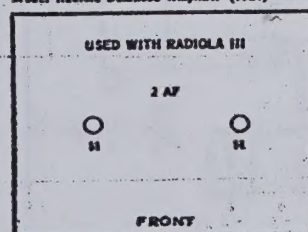


Model Radiola III

Model Radiola III (1924)



Model Radiola Balanced Amplifier (1924)



MODEL Radiola II

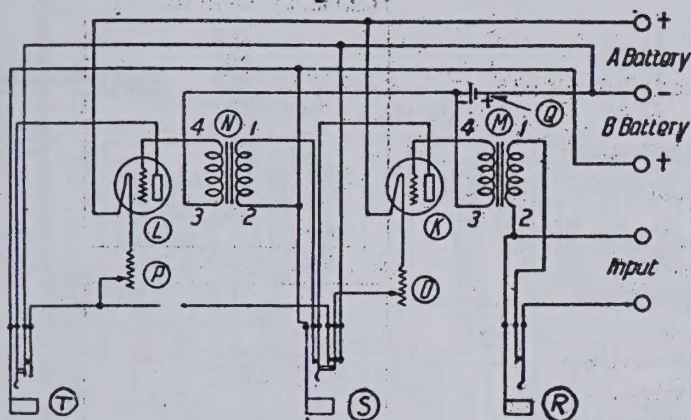
MODEL Radiola III

MODEL Radiola

Balanced Amp.

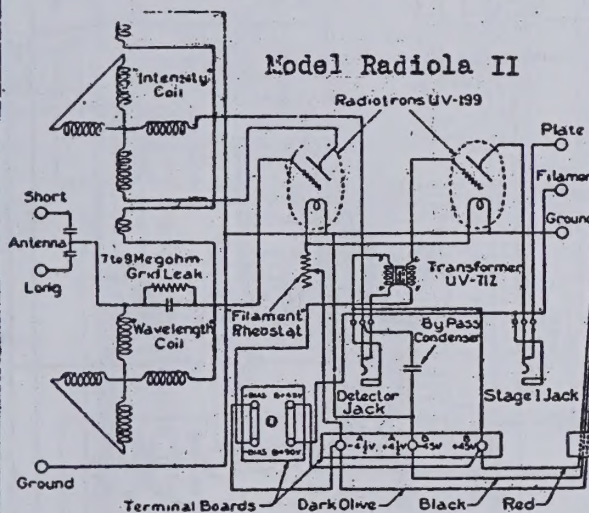
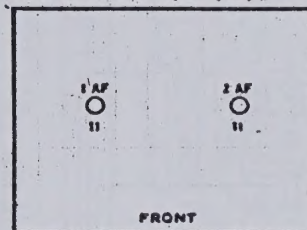
MODEL Radiola Sen. Amp.

R. C. A. VICTOR CO., INC.



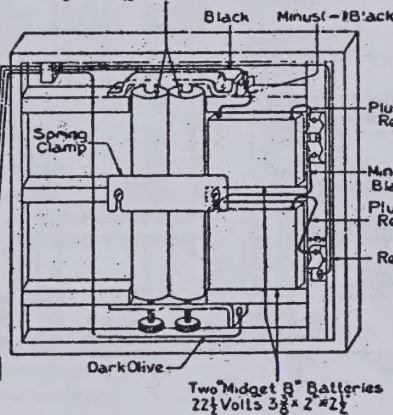
Model Senior Amp.

Model Radiola Senior Amplifier (1922)

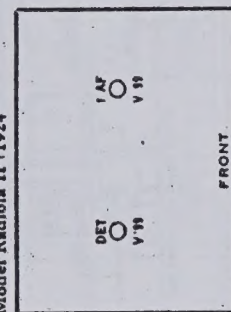


Model Radiola II

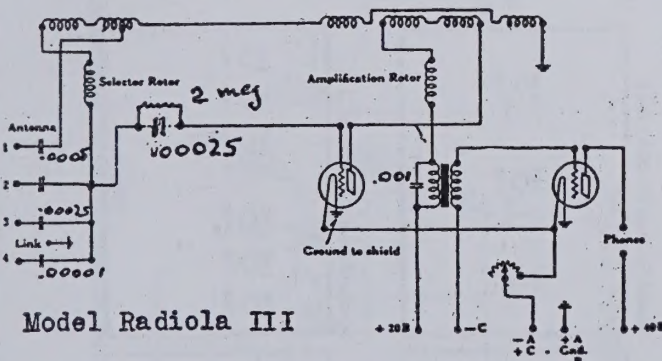
Two Flashlight Batteries
4 1/2 Volts 1 1/2 Dia. x 7"



Model Radiola II (1924)

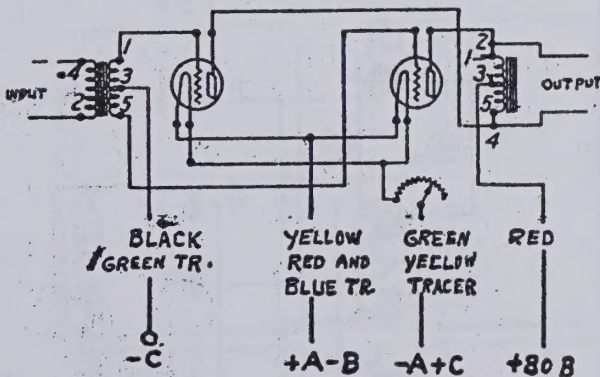
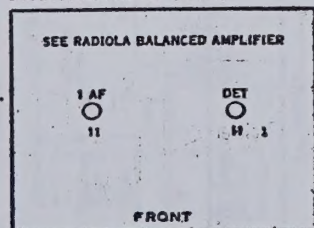


Model Balanced Amp.



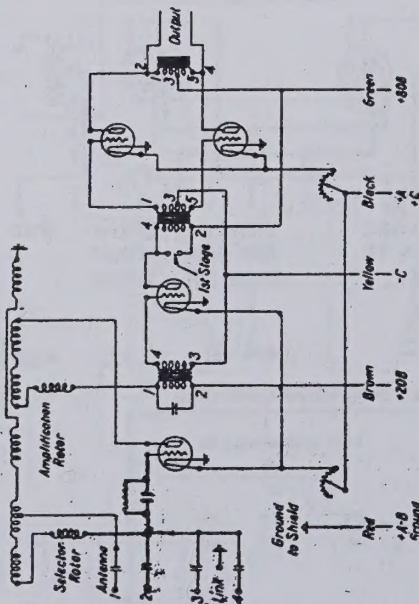
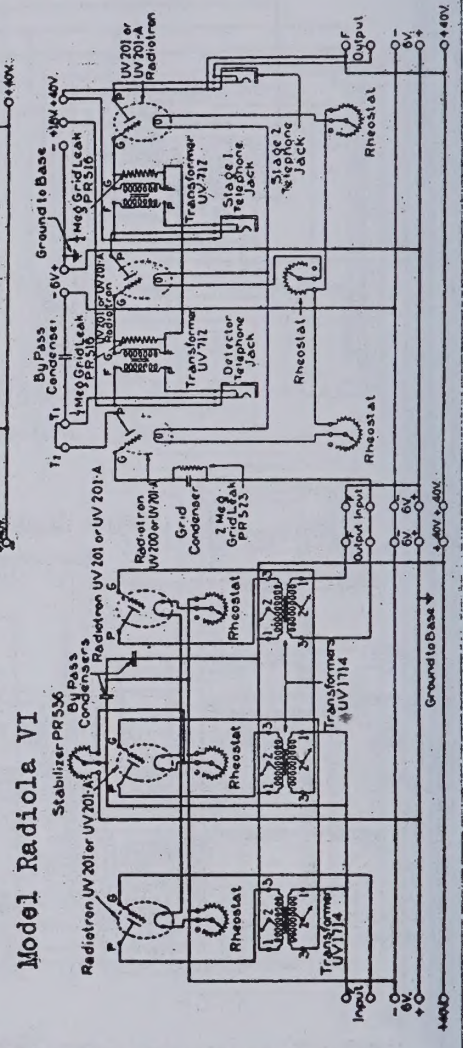
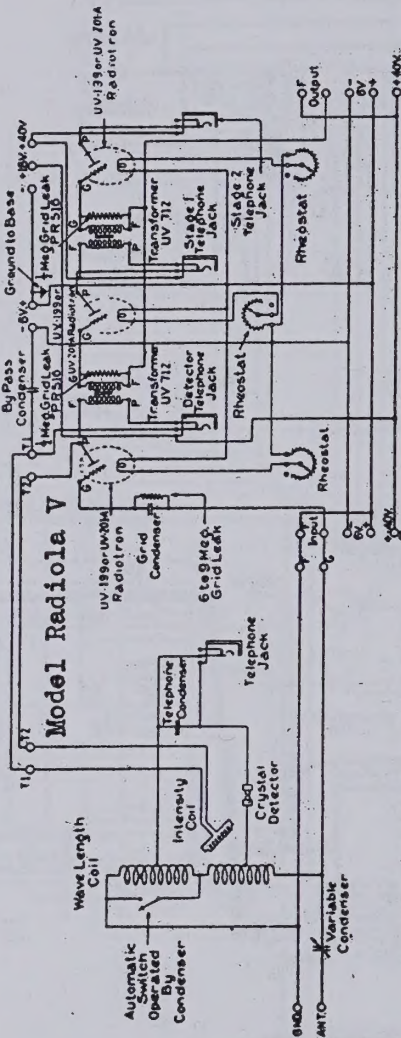
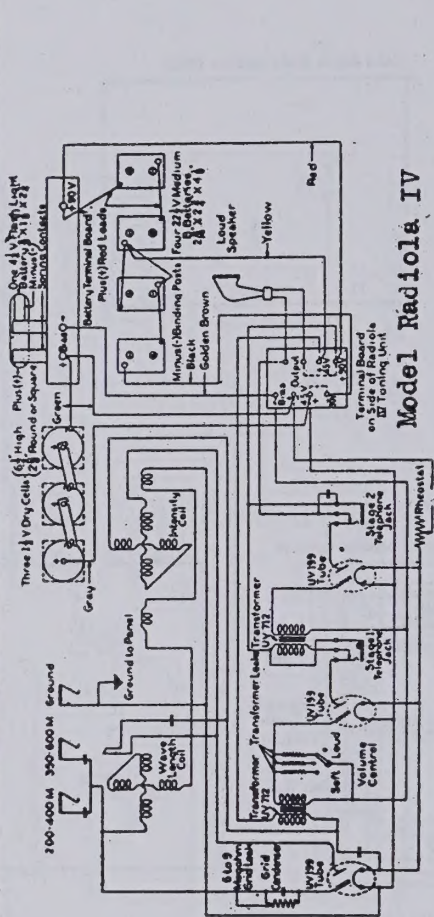
Model Radiola III

Model Radiola III (1924)



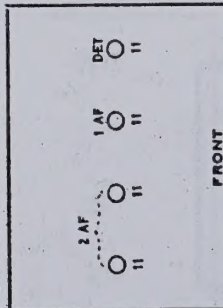
R. C. A. VICTOR CO., INC.

MODEL Radiola III-A
 MODEL Radiola IV
 MODEL Radiola V
 MODEL Radiola VI

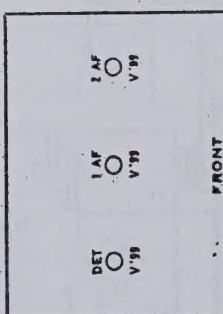


Model Radiola III-A

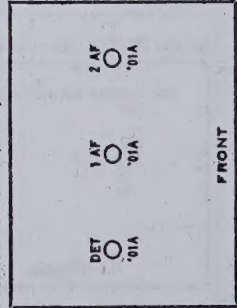
Model Radiola IIIA (1924)



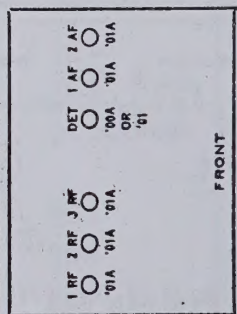
Model Radiola IV, VA (1923)



Model Radiola V (1923)



Model Radiola VI (1923)



MODEL Radiola II

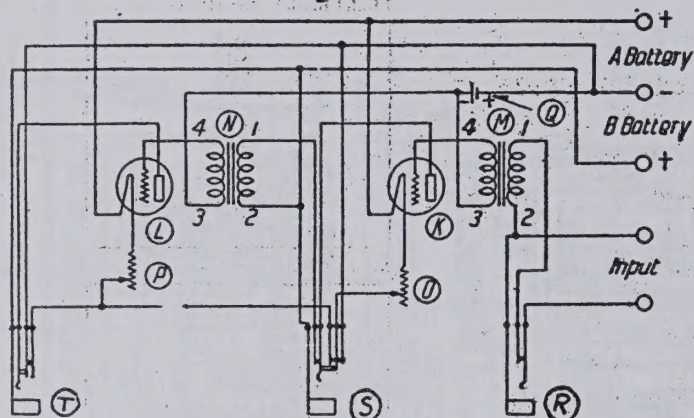
MODEL Radiola III

MODEL Radiola

Balanced Amp.

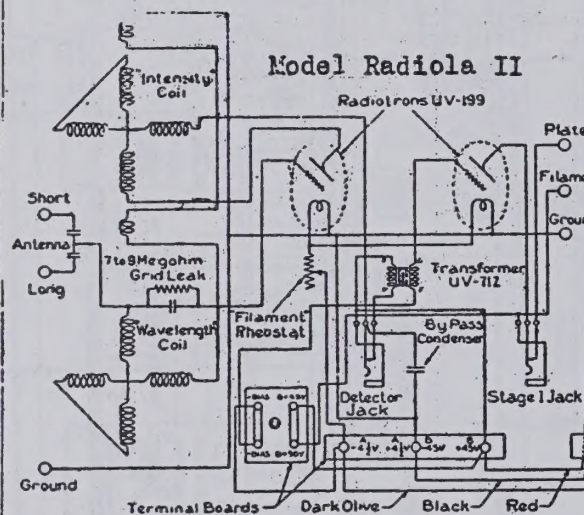
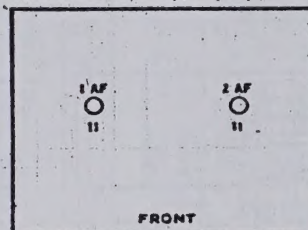
MODEL Radiola Sen. Amp.

R. C. A. VICTOR CO., INC.

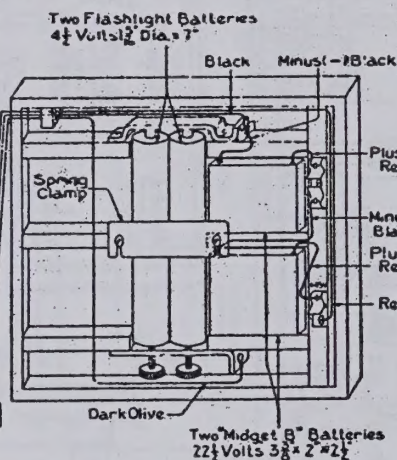


Model Senior Amp.

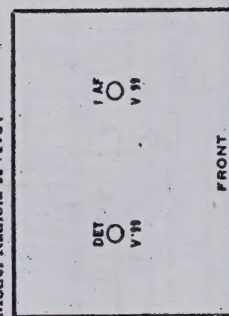
Model Radiola Senior Amplifier (1922)



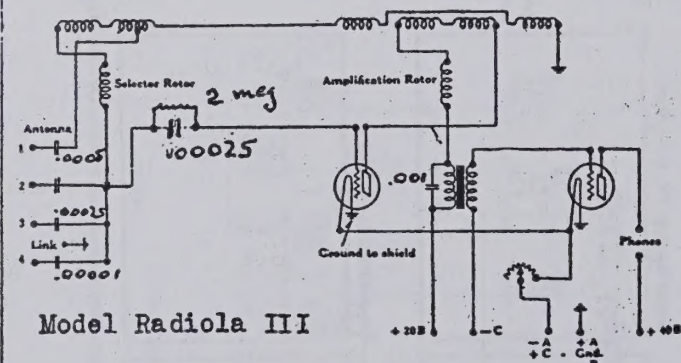
Model Radiola II



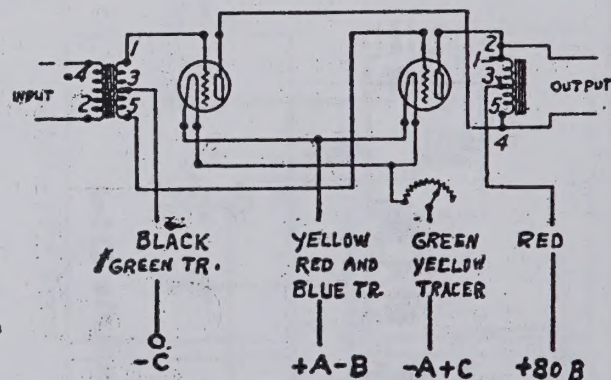
Model Radiola II (1924)



Model Balanced Amp.

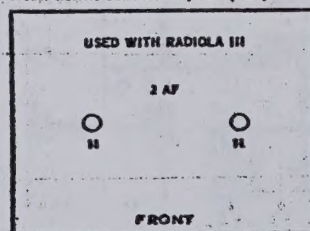
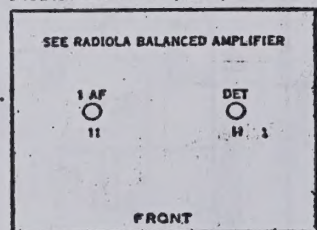


Model Radiola III

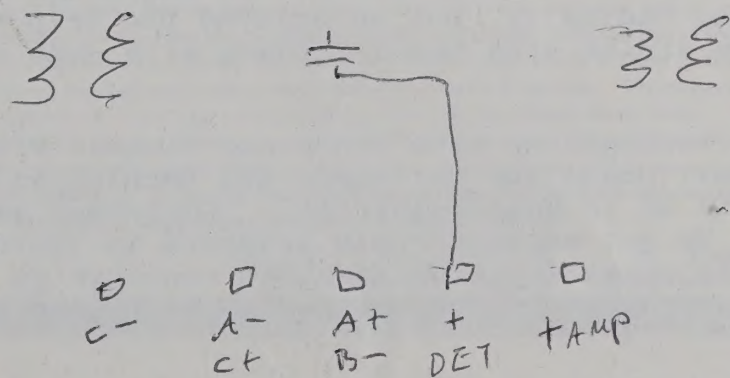
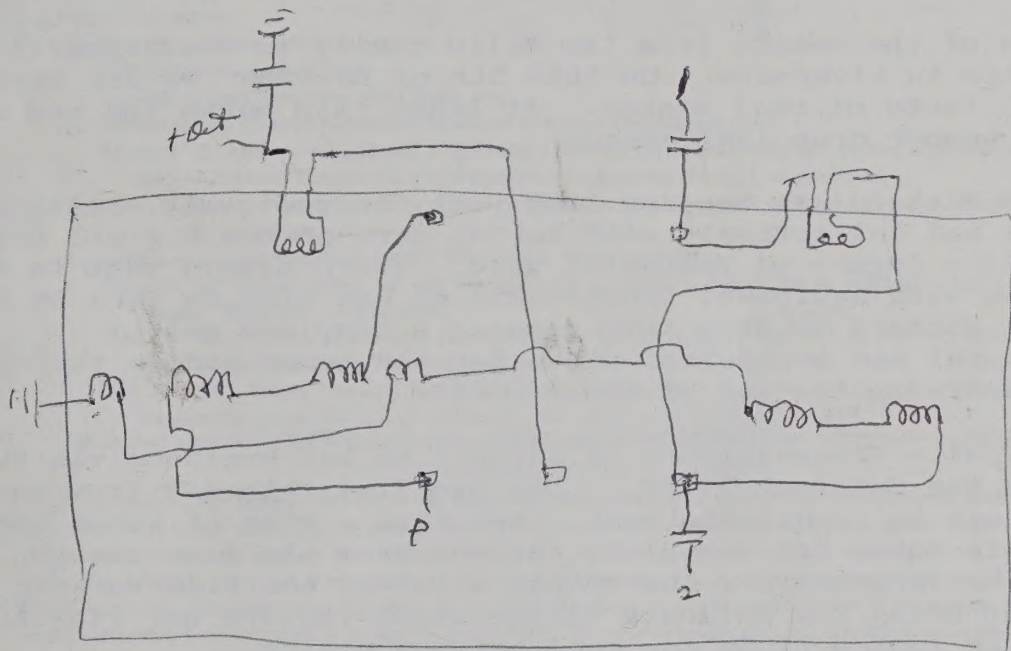


Model Radiola Balanced Amplifier (1924)

Model Radiola III (1924)



Radical 74





Greetings of the season from the Mills family in Hendersonville and Bernice in Livermore. On this 5th of December we are having our first taste of real winter. At least this marks the end of the 1992 bumper crop leaf season.

Harry and Richard are keeping busy with, respectively, radio and computers and collectively with taking care of the big old house and Mother's legacy of beautiful yard. There always seem to be local hams with equipment trouble and no one else to turn to for repairs. Richard is deep into drawing a complete set of architectural and mechanical plans for the house and in the process learning the use of Generic CAD.

Bernice visits frequently as an adjunct to her business visits to Oak Ridge and Savannah River. She has just returned from her second visit to Japan this year, this time a stay of three weeks. She says it takes her a week to recover from the time change. While in Hendersonville, she spends a lot of her time working in the garden doing the delicate things which require her fine touch and issuing instructions for care between visits.

Travels this year for Harry and Richard have included a trip to Florida last winter to sight see in Ocala, Cape Canaveral, and the Okefenokee Swamp, visit Epcot Center, and visit Mary Mills in Palm Bay, several old family friends in Ocala, and Bob and Clara Mills in Tampa; a number of trips to weekend hamfests; and an extensive trip through the Northeast to visit many of the places we have lived over the years and at least attempt to find some of the people we knew. All of the houses and neighborhoods have changed, some radically, but we enjoyed the trip back through time and the visits with those friends with whom we were able to connect.

We enjoyed Thanksgiving with Dinah and Richard Witt. They will be on the Gulf coast for Christmas but Bernice will spend the holidays with us in Hendersonville. Christmas has come and gone for Harry. He got an electronic keyboard to install in the cabinet of an organ which has awaited restoration (in the dining room) for several years. Sometimes it is better to bow to the inevitable.

We wish you all the best for the holiday season and the coming year.

RADIOLA II

MODEL AR-800

RADIOLA II, when used with an average antenna, constitutes a complete equipment for the reception of radio telephone and telegraph signals of any wavelength between 200 and 600 meters. It includes a regenerative tuning system employing a vacuum tube detector and one stage of audio-frequency amplification. The set is made conveniently portable by the use of Radiotrons, Model UV-199, operated entirely by standard dry batteries. Space is provided in the rear compartment for the batteries, for portable use, and in the front cover for the telephones. The carrying handle can easily be removed when not in use.

Radiola II gives excellent results with head telephones. It can also be used with an amplifier to increase signal intensity, for operating a loud speaker. At short distances from broadcasting stations, an additional amplifier will not always be required for this purpose.

The following parts are packed with the set:

Two Model UV-199 Radiotrons

One Pair of Head Telephones with UD-824 Plug.

For portable use the batteries required for installation in the rear compartment are:

Filament "A" battery—two $4\frac{1}{2}$ volt, 3 cell flashlight batteries, $1\frac{1}{8}$ in. in diameter by 7 in. long approximately, such as Eveready Tungsten No. 705, Burgess No. 232, Kwik-lite No. 1301, or equivalent.

Plate "B" battery—two $22\frac{1}{2}$ volt batteries, 2 in. by $2\frac{1}{2}$ in. by $3\frac{3}{4}$ in., such as Burgess No. 4156, Eveready No. 763, or equivalent.

For a permanent installation, larger capacity batteries may be used as follows:

Filament "A" battery—three $1\frac{1}{2}$ volt dry cells, such as Columbia Ignitor No. 6, Manhattan Red Seal, Burgess "Super-Six," or equivalent.

Plate "B" battery—two or four $22\frac{1}{2}$ volt dry batteries, such as Eveready No. 768 or No. 766, Burgess No. 5156, No. 5156 BP, or No. 2156, or equivalent.

Grid Bias "C" battery—one $4\frac{1}{2}$ volt 3-cell flashlight battery, such as Eveready No. 751 or No. 703, Burgess No. 432 or No. 532, or equivalent. (See below under "INSTALLATION.")

For antenna material, use the Model AG-788 Antenna Equipment.

ANTENNA SYSTEM

The accompanying drawing shows the correct arrangement of the antenna. A span of from 75 to 100 feet is desirable and should be 25 feet or more above the ground. Reception improves with increased height. If the suggested length and height cannot be secured, approach them as nearly as possible. The antenna should be at right angles to electric light, power, and telephone wires and, if practicable, at least 15 feet distant from them. It must not be touched by any object except insulators. The same precautions apply to the lead-in wire, which should be a continuation of the antenna wire without any joints and run as directly as possible to the receiver. In receiving nearby stations, an indoor antenna even as short as 20 to 30 feet will usually give satisfactory results and will have considerable selectivity. The indoor antenna may consist of a wire run the length of the attic or just below the ceiling of an ordinary size living room.

Ground connection is a necessary part of every antenna. The ground wire (rubber covered No. 14 gauge) should be connected as directly as possible to the house water pipes by means of a ground clamp. If water pipes are not available, use a pipe driven deeply into moist ground and as near to the set as practicable. The ground wire and the pipe should be well scraped and cleaned at the point of connection. For a protector, use Model UQ-1310 Lightning Arrester, or some other approved device. Install it where the lead-in wire enters the house and connect as shown in the diagram. The installation shown and described in this diagram is in accordance with National Electric Code standards.

INSTALLATION

Locate the Receiver at a point conveniently near the lead-in and protector. Remove the front cover by pressing the small black button in the upper right-hand corner and then swinging the cover out and lifting it from the hinges.

Before removing the head telephones from the front cover, observe carefully the manner in which they are secured in place by the clips. They must be held thus when they are replaced and the cover is closed. Note also that all knobs must be turned to "0" before the telephones are replaced. The cord is rolled up in a small bundle, a rubber band is placed around the wires, and the cord is then held underneath the clip in the lower left corner of the cover. The telephone plug is held by a clip in the lower right corner. The plug must be pushed into the extreme corner before closing the set.

Run a wire from the antenna terminal of the protector to the lower antenna post (marked "LONG") in the center left side of the receiver panel. This is for wavelengths of from 375 to 600 meters. For wavelengths of from 200 to 375 meters, use the upper post (marked "SHORT"). Connect the "GROUND" post on the receiver panel with the ground terminal of the protective device. The foregoing connections are as shown in the diagram.

April, 1923

IC-86952A

Supersedes IC-86952



The terminal posts marked "PLATE," "FILAMENT," and "GROUND" located on the right side of the panel, are provided to permit convenient connections to an additional amplifier, when used. If a loud speaker is used without an additional amplifier, connect the two wires from it to the "PLATE" and "FILAMENT" terminal posts. Make no connections to these posts if neither amplifier nor loud speaker is used.

The location and connection of the batteries in the rear compartment for portable use are shown in Fig. 4. Initial or renewal installations should be made as follows:

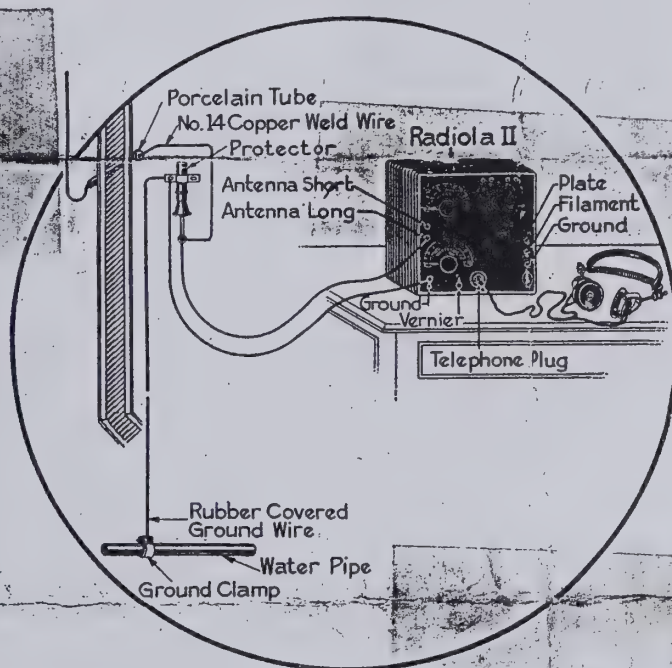


Fig. 2

of the batteries to prevent the center battery post from touching the metal contact strip. The three flexible leads (olive black and red) are then disconnected from the terminal board of the set, folded back into the rear compartment and clamped under the spring clamp provided for this purpose. Loosen the terminal nuts on the vertical terminal board and let the two jumper connections drop down to the positions shown in the figure.

The three external dry cells are connected in series, and the negative (outside) terminal is connected by means of an insulated wire passed through the bushing in the bottom of the set, to the post marked "A - 4½ V" on the horizontal terminal board inside the set.

Remove the spring clamp in the center of the battery compartment, but do not disconnect any of the colored flexible leads that connect the compartment to the set. Put the two flashlight batteries in the central space and tighten the thumb screws at the bottom. Place the two midget "B" batteries on the two shelves at the right. Connect them in series, using the double-ended spring clip. Connect the negative (black) lead to the black spring clip, and the positive (red) lead to the red spring clip marked "+ 45 V."

The installation and connection of larger capacity external batteries are made as shown in Fig. 3.

If those for portable use are installed in the rear compartment, they should be entirely removed or disconnected. To disconnect them, the (+) red lead is disconnected from the red clip marked "+ 45 V" and thrust back into the compartment; the thumb screws clamping the flashlight batteries are loosened, and a small piece of dry paper is folded and placed on top

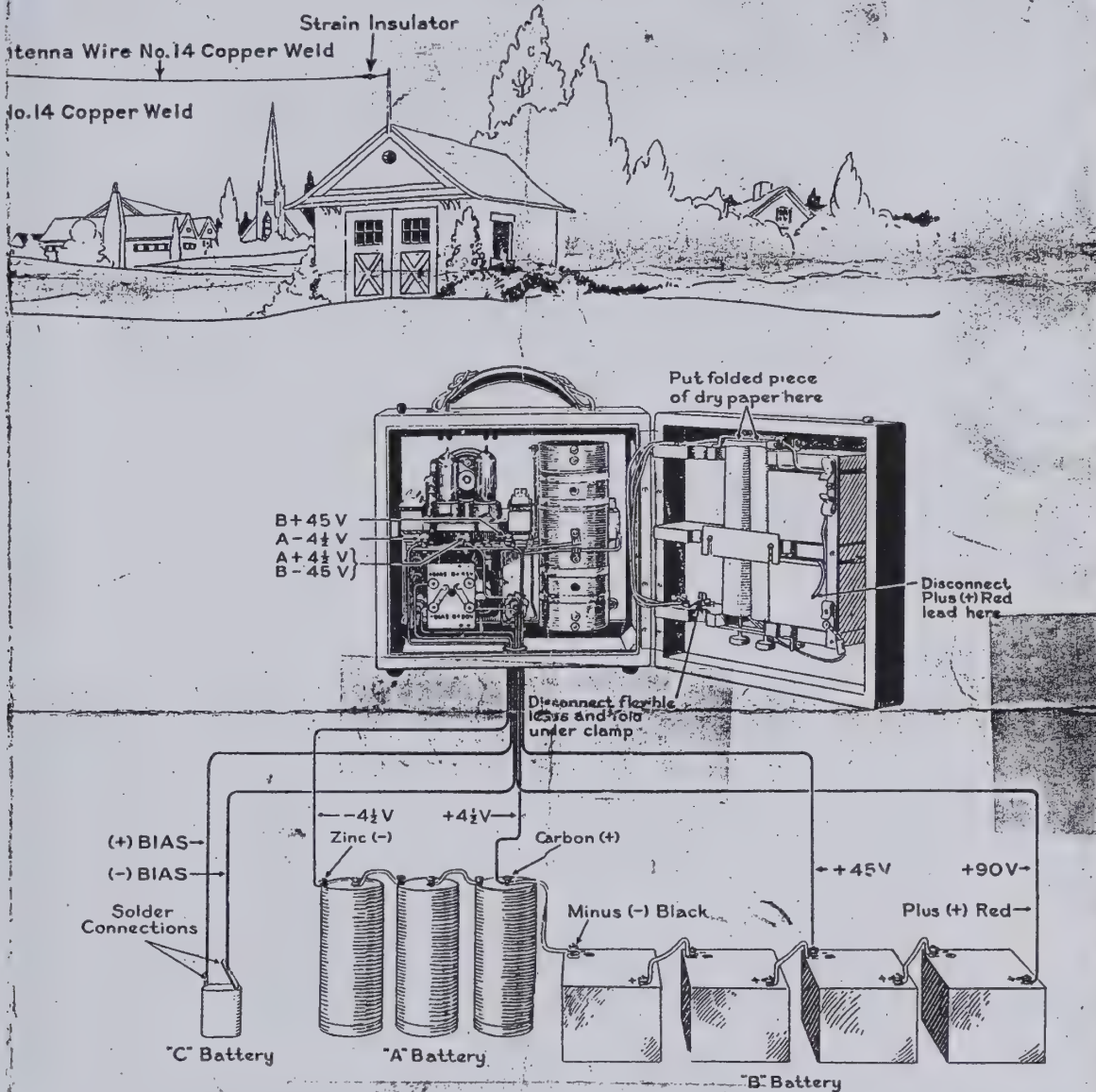


Fig. 3

The four $22\frac{1}{2}$ volt "B" batteries are connected in series. The negative (black) lead is connected to the positive (center) terminal of the "A" battery and this point connected to the post marked "A+4½ V B-45 V" on the terminal board. The positive (red) lead is connected to the "B+90 V" post on the vertical terminal board; and the negative (black) lead of the third "B" battery is connected to the "B+45 V" post on the horizontal terminal board.

The negative (long contact strip) of the grid bias battery is connected to the "-BIAS" terminal on the vertical terminal board, and the positive (short contact strip) to the "+BIAS" terminal. Both connections should be soldered to the grid bias battery.

Four $22\frac{1}{2}$ volt batteries providing a plate supply of 90 volts and a grid bias battery as specified, are recommended if a loud speaker is used. For head telephone reception only, two $22\frac{1}{2}$ volt batteries providing a plate supply of 45 volts will be sufficient. In this case, the grid bias battery should be omitted, and both jumpers should be connected in accordance with Fig. 4.

The grid resistance, a 7 to 9 megohm unit, is held in position by spring clips under the tube socket.

Remember that vacuum tubes must be handled carefully.

Before inserting the tubes in the sockets, be sure that the filament knob is in the "OFF" position. Place the brass base of the tube in the socket and turn until the base pin drops into the slot; then press down gently on the tube and turn it to the right into position.

Radiola II is now ready to operate.

OPERATION

Set the "INTENSITY" knob at "0." Light the tube filaments to a brilliancy explained in the instructions accompanying the tube, by turning the "FILAMENT" knob from "0" toward "10." With new batteries, from 1 to 4 is an average setting, but this will increase as the batteries are used.

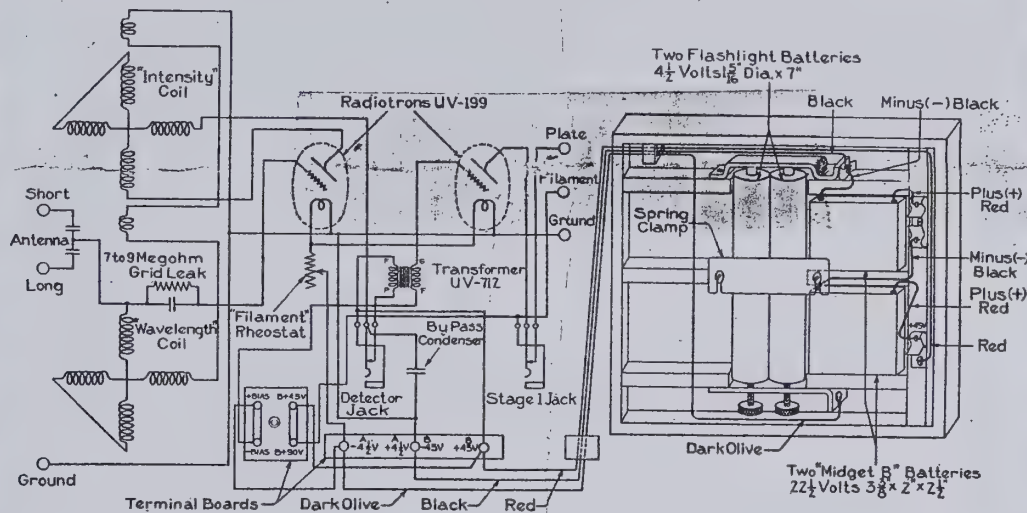


Fig. 1

Adjust the telephones snugly to the ears and insert the plug attached to the telephone cord in the jack marked "DETECTOR." A click should be heard on insertion or removal of the plug.

Turn the "WAVELENGTH" knob slowly until a signal is heard, and set it at the point where the signal is loudest. If no signals are heard or if they are very weak, slowly turn the "INTENSITY" knob clockwise, still searching for signals with the "WAVELENGTH" knob.

When signals are heard, turn the "INTENSITY" knob still farther, thus increasing the signal strength. Should it be advanced too far, a click will be heard in the telephones and then all signals will have a "mushy" sound. AT THIS POINT THE RECEIVER BECOMES A TRANSMITTER AND SERIOUSLY INTERFERES WITH NEIGHBORING RADIO RECEIVERS. THIS CONDITION OF OSCILLATION MUST BE AVOIDED, BUT IF IT DOES OCCUR, IMMEDIATELY TURN THE "INTENSITY" CONTROL BACKWARD SLIGHTLY UNTIL THE SIGNAL CLEARS UP.

To increase the signal strength still further, insert the telephone plug in "STAGE 1." This may require a slight readjustment of the "INTENSITY" knob.

The "VERNIER" knob provides a fine adjustment of the wavelength.

When the telephone plug is withdrawn, the amplifier or loud speaker, if either is connected, will be in circuit.

When the receiver is not in use, be sure to cut off the tube current by turning the "FILAMENT" knob to the "OFF" position.

POSSIBLE CAUSES OF FAULTY OPERATION

1. Poor or broken connections in antenna or ground wires, or defective insulation of antenna.
2. "FILAMENT" control improperly adjusted.
3. Improper adjustment of "INTENSITY," "WAVELENGTH," and "VERNIER" controls.
4. Batteries exhausted (indicated by low filament brilliancy or weak signals and noisy operation).
5. Battery connections improperly made, or broken.
6. Poor or broken connections in telephone cord or plug.
7. Grid leak omitted.
8. Inoperative vacuum tubes.

MANUFACTURED BY

GENERAL ELECTRIC COMPANY, U. S. A.

for

Radio Corporation
of America
WOLFELOW BUILDING - NEW YORK CITY

RADIOLA II

MODEL AR-800

RADIOLA II, when used with an average antenna, constitutes a complete equipment for the reception of radio telephone and telegraph signals of any wavelength between 200 and 600 meters. It includes a regenerative tuning system employing a vacuum tube detector and one stage of audio-frequency amplification. The set is made conveniently portable by the use of Radiotrons, Model UV-199, operated entirely by standard dry batteries. Space is provided in the rear compartment for the batteries, for portable use, and in the front cover for the telephones. The carrying handle can easily be removed when not in use.

Radiola II gives excellent results with head telephones. It can also be used with an amplifier to increase signal intensity, for operating a loud speaker. At short distances from broadcasting stations, an additional amplifier will not always be required for this purpose.

The following parts are packed with the set:

Two Model UV-199 Radiotrons

One Pair of Head Telephones with UD-824 Plug.

For portable use the batteries required for installation in the rear compartment are:

Filament "A" battery—two 4½ volt, 3 cell flashlight batteries, 1¼ in. in diameter by 7 in. long approximately, such as Eveready Tungsten No. 705, Burgess No. 232, Kwik-lite No. 1301, or equivalent.

Plate "B" battery—two 22½ volt batteries, 2 in. by 2½ in. by 3¾ in., such as Burgess No. 4156, Eveready No. 763, or equivalent.

For a permanent installation, larger capacity batteries may be used as follows:

Filament "A" battery—three 1½ volt dry cells, such as Columbia Ignitor No. 6, Manhattan Red Seal, Burgess "Super-Six," or equivalent.

Plate "B" battery—two or four 22½ volt dry batteries, such as Eveready No. 768 or No. 766, Burgess No. 5156, No. 5156 BP, or No. 2156, or equivalent.

Grid Bias "C" battery—one 4½ volt 3-cell flashlight battery, such as Eveready No. 751 or No. 703, Burgess No. 432 or No. 532, or equivalent. (See below under "INSTALLATION.")

For antenna material, use the Model AG-788 Antenna Equipment.

ANTENNA SYSTEM

The accompanying drawing shows the correct arrangement of the antenna. A span of from 75 to 100 feet is desirable and should be 25 feet or more above the ground. Reception improves with increased height. If the suggested length and height cannot be secured, approach them as nearly as possible. The antenna should be at right angles to electric light, power, and telephone wires and, if practicable, at least 15 feet distant from them. It must not be touched by any object except insulators. The same precautions apply to the lead-in wire, which should be a continuation of the antenna wire without any joints and run as directly as possible to the receiver. In receiving nearby stations, an indoor antenna even as short as 20 to 30 feet will usually give satisfactory results and will have considerable selectivity. The indoor antenna may consist of a wire run the length of the attic or just below the ceiling of an ordinary size living room.

Ground connection is a necessary part of every antenna. The ground wire (rubber covered No. 14 gauge) should be connected as directly as possible to the house water pipes by means of a ground clamp. If water pipes are not available, use a pipe driven deeply into moist ground and as near to the set as practicable. The ground wire and the pipe should be well scraped and cleaned at the point of connection. For a protector, use Model UQ-1310 Lightning Arrester, or some other approved device. Install it where the lead-in wire enters the house and connect as shown in the diagram. The installation shown and described in this diagram is in accordance with National Electric Code standards.

INSTALLATION

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Run a wire from the antenna terminal of the protector to the lower antenna post (marked "LONG") in the center left side of the receiver panel. This is for wavelengths of from 375 to 600 meters. For wavelengths of from 200 to 375 meters, use the upper post (marked "SHORT"). Connect the "GROUND" post on the receiver panel with the ground terminal of the protective device. The foregoing connections are as shown in the diagram.

April, 1923

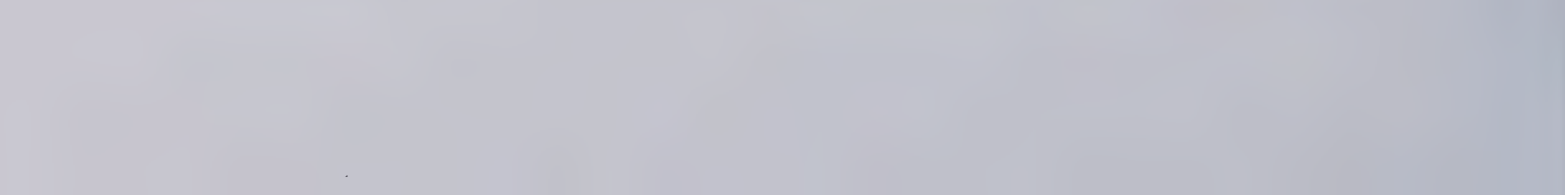
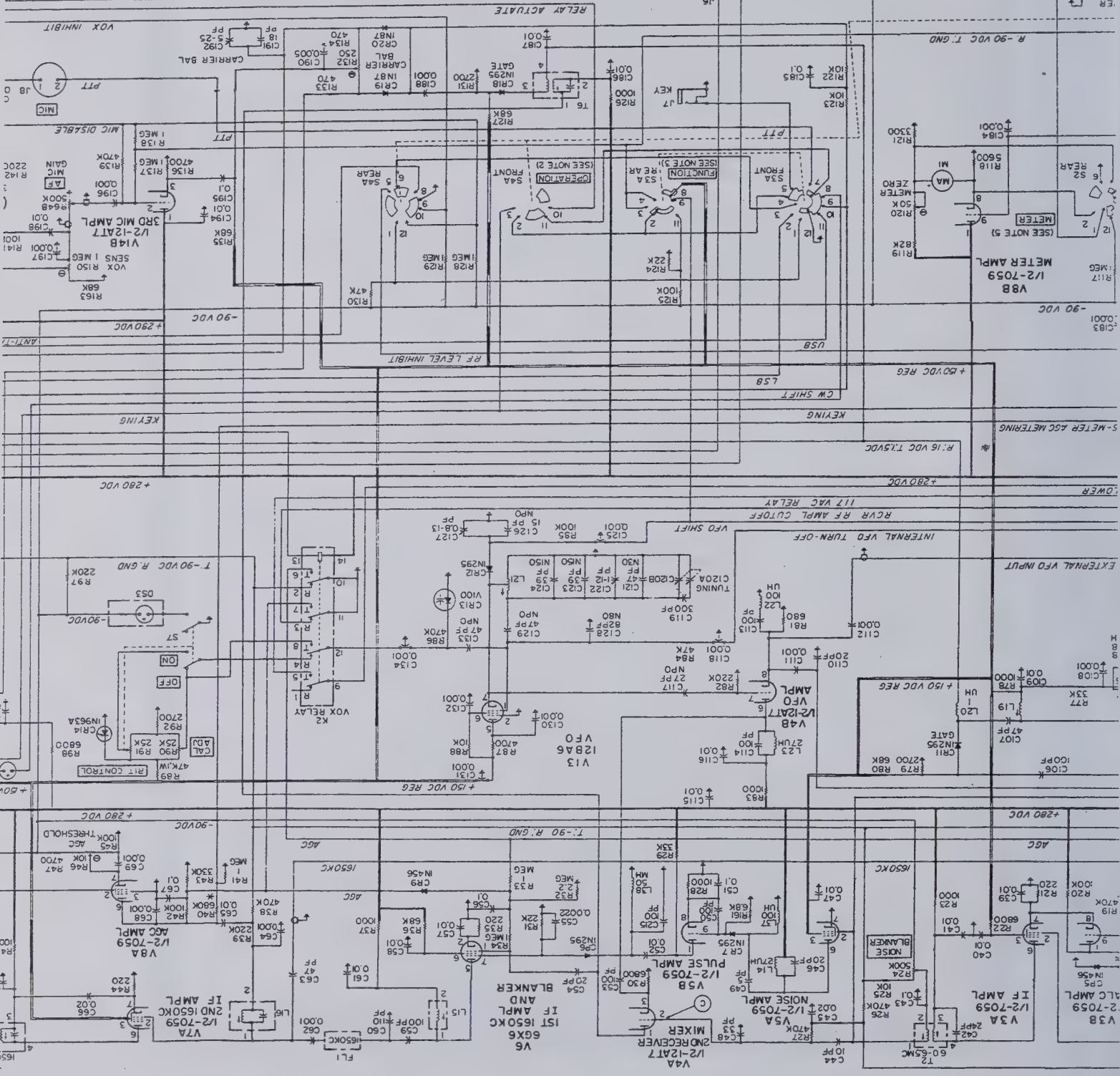
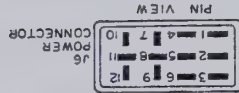
IC-86952A

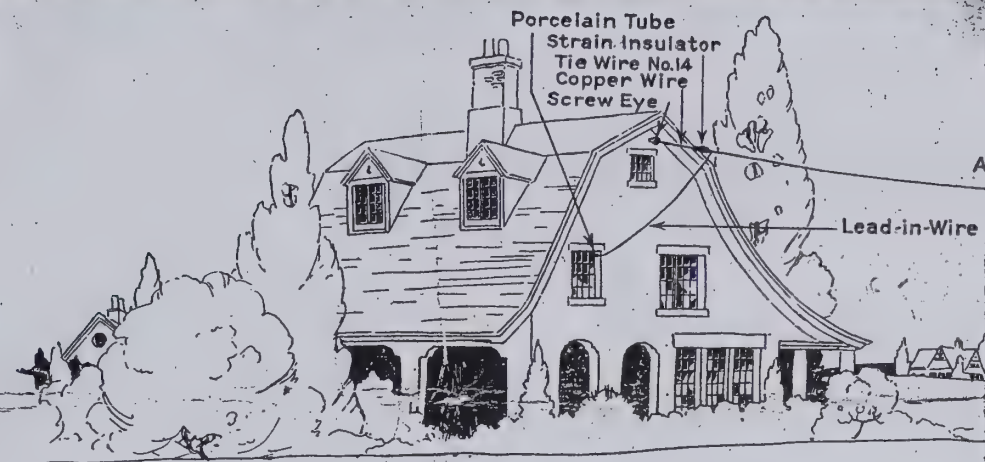
Supersedes IC-86952

OPERATION SWITCH	1	2	3	4
OFF (POWER OFF)				
REC (RECEIVE)				
MOX (MANUAL)				
VOX (AUTOMATIC)				
S4 SHOWN IN OFF				

FUNCTION SWITCH POSITIONS	1	2	3	4
CW				
TUNE				
USB				
LSB				
S3 SHOWN IN CW				

METER SWITCH POSITIONS	1	2	3
R-F			
T-F			
T-A			
T-S			
S2 SHOWN IN R-F			





The terminal posts marked "PLATE," "FILAMENT," and "GROUND" located on the right side of the panel, are provided to permit convenient connections to an additional amplifier, when used. If a loud speaker is used without an additional amplifier, connect the two wires from it to the "PLATE" and "FILAMENT" terminal posts. Make no connections to these posts if neither amplifier nor loud speaker is used.

The location and connection of the batteries in the rear compartment for portable use are shown in Fig. 4. Initial or renewal installations should be made as follows:

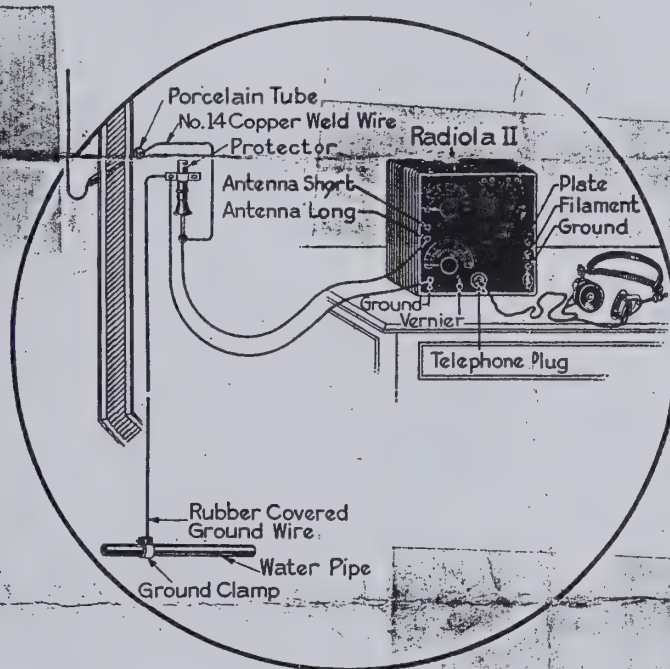


Fig. 2

of the batteries to prevent the center battery post from touching the metal contact strip. The three flexible leads (olive black and red) are then disconnected from the terminal board of the set, folded back into the rear compartment and clamped under the spring clamp provided for this purpose. Loosen the terminal nuts on the vertical terminal board and let the two jumper connections drop down to the positions shown in the figure.

The three external dry cells are connected in series, and the negative (outside) terminal is connected by means of an insulated wire passed through the bushing in the bottom of the set, to the post marked "A $\approx 4\frac{1}{2}$ V" on the horizontal terminal board inside the set.

Remove the spring clamp in the center of the battery compartment, but do not disconnect any of the colored flexible leads that connect the compartment to the set. Put the two flashlight batteries in the central space and tighten the thumb screws at the bottom. Place the two midget "B" batteries on the two shelves at the right. Connect them in series, using the double-ended spring clip. Connect the negative (black) lead to the black spring clip, and the positive (red) lead to the red spring clip marked "+ 45 V."

The installation and connection of larger capacity external batteries are made as shown in Fig. 3.

If those for portable use are installed in the rear compartment, they should be entirely removed or disconnected. To disconnect them, the (+) red lead is disconnected from the red clip marked "+ 45 V" and thrust back into the compartment; the thumb screws clamping the flashlight batteries are loosened, and a small piece of dry paper is folded and placed on top

1. DC Voltage measurements are at 20,000 ohms per volt; AC Vol

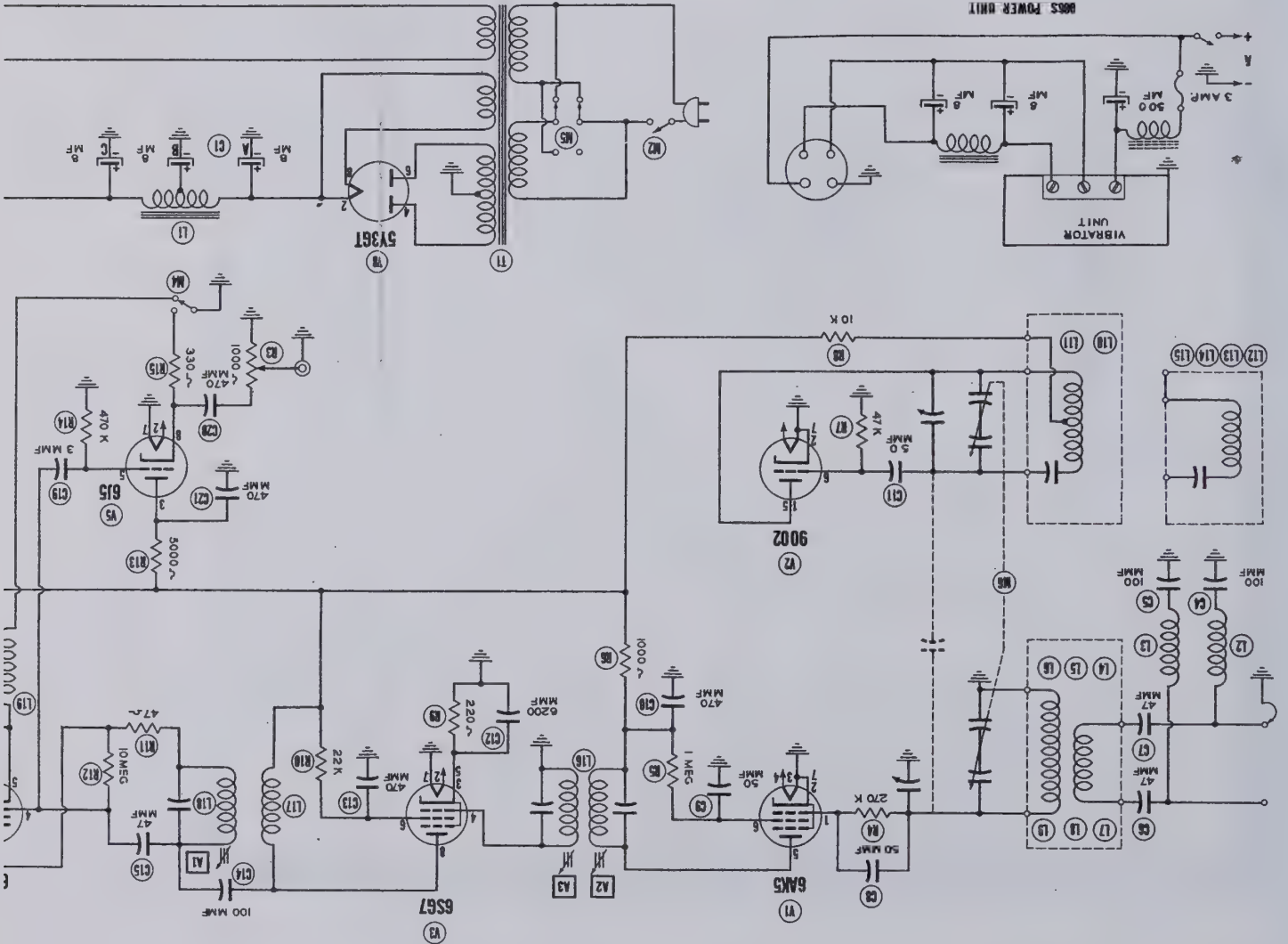
RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

§TAKEN WITH VACUUM TUBE VOLTMETER.

Item	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
6AK5	-5VDC	0V	0V	6.3VAC	1.75VDC	28VDC	0V	
6X02	1.35VDC	0V	0V	6.2VAC	1.55VDC	\$-9.8VDC	0V	
6B07	6.3VAC	2VDC	0V	2VDC	2VDC	1.25VDC	0V	1.75VDC
6SK7	0V	0V	6.3VAC	1.0VDC	1.1VDC	3.3VDC	1.0VDC	1.0VDC
6J5	0V	0V	0V	1.30VDC	0V	0V	0V	2.5VDC
6J5	0V	0V	0V	85VDC	0V	0V	0V	4VDC
6V60T	6.5VAC	1.65VDC	180VDC	0V	0V	0V	0V	11VDC
6X30T	0V	220VDC	0V	210VAC	0V	210VAC	0V	220VDC

VOLTAGE READINGS

Item	Tube	Pm I
V 1	6AK5	270K Ω
V 2	9002	10K Ω
V 3	68G7	0 Ω
V 4	6SK7	0 Ω
V 5	6J5	0 Ω
V 6	6J5	0 Ω
V 7	6V6G7	0 Ω
V 8	5Y3G7	Inf.

 $IF=10.7\text{ MC}$ 

Antenna Wire No. 14 Copper Weld
Strain Insulator
No. 14 Copper Weld

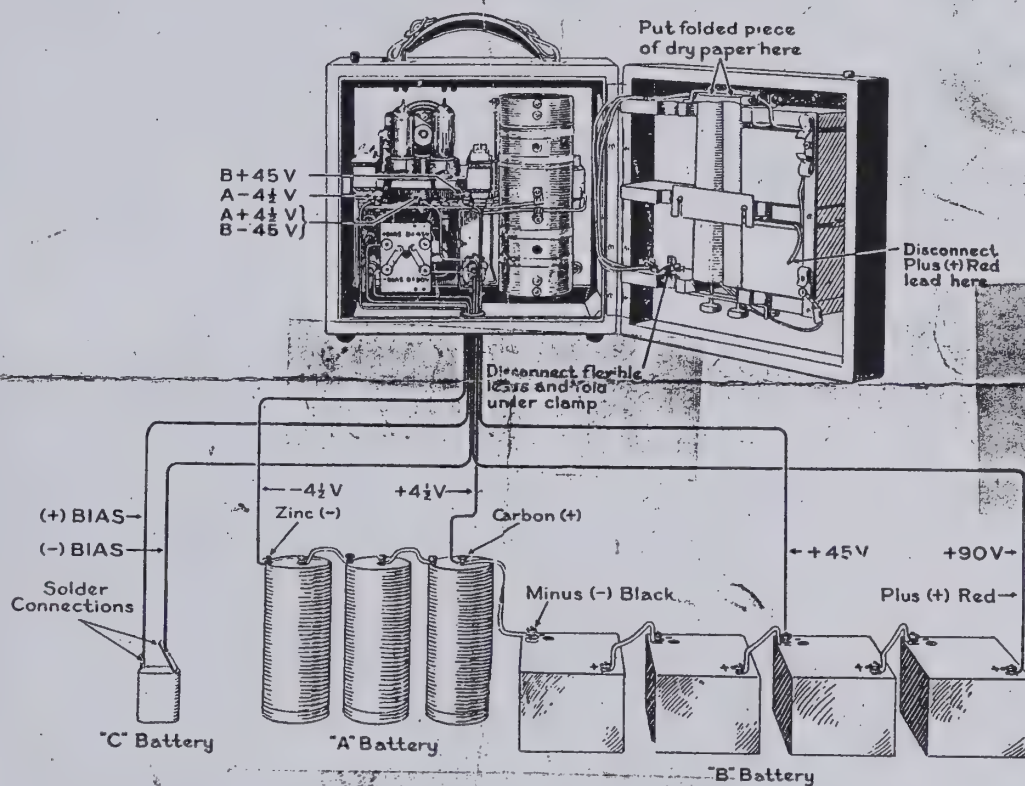


Fig. 3

The four $22\frac{1}{2}$ volt "B" batteries are connected in series. The negative (black) lead is connected to the positive (center) terminal of the "A" battery and this point connected to the post marked "A+ $4\frac{1}{2}$ V B-45 V" on the terminal board. The positive (red) lead is connected to the "B+90 V" post on the vertical terminal board; and the negative (black) lead of the third "B" battery is connected to the "B+45 V" post on the horizontal terminal board.

The negative (long contact strip) of the grid bias battery is connected to the "-BIAS" terminal on the vertical terminal board, and the positive (short contact strip) to the "+BIAS" terminal. Both connections should be soldered to the grid bias battery.

Four $22\frac{1}{2}$ volt batteries providing a plate supply of 90 volts and a grid bias battery as specified, are recommended if a loud speaker is used. For head telephone reception only, two $22\frac{1}{2}$ volt batteries providing a plate supply of 45 volts will be sufficient. In this case, the grid bias battery should be omitted, and both jumpers should be connected in accordance with Fig. 4.

The grid resistance, a 7 to 9 megohm unit, is held in position by spring clips under the tube socket.

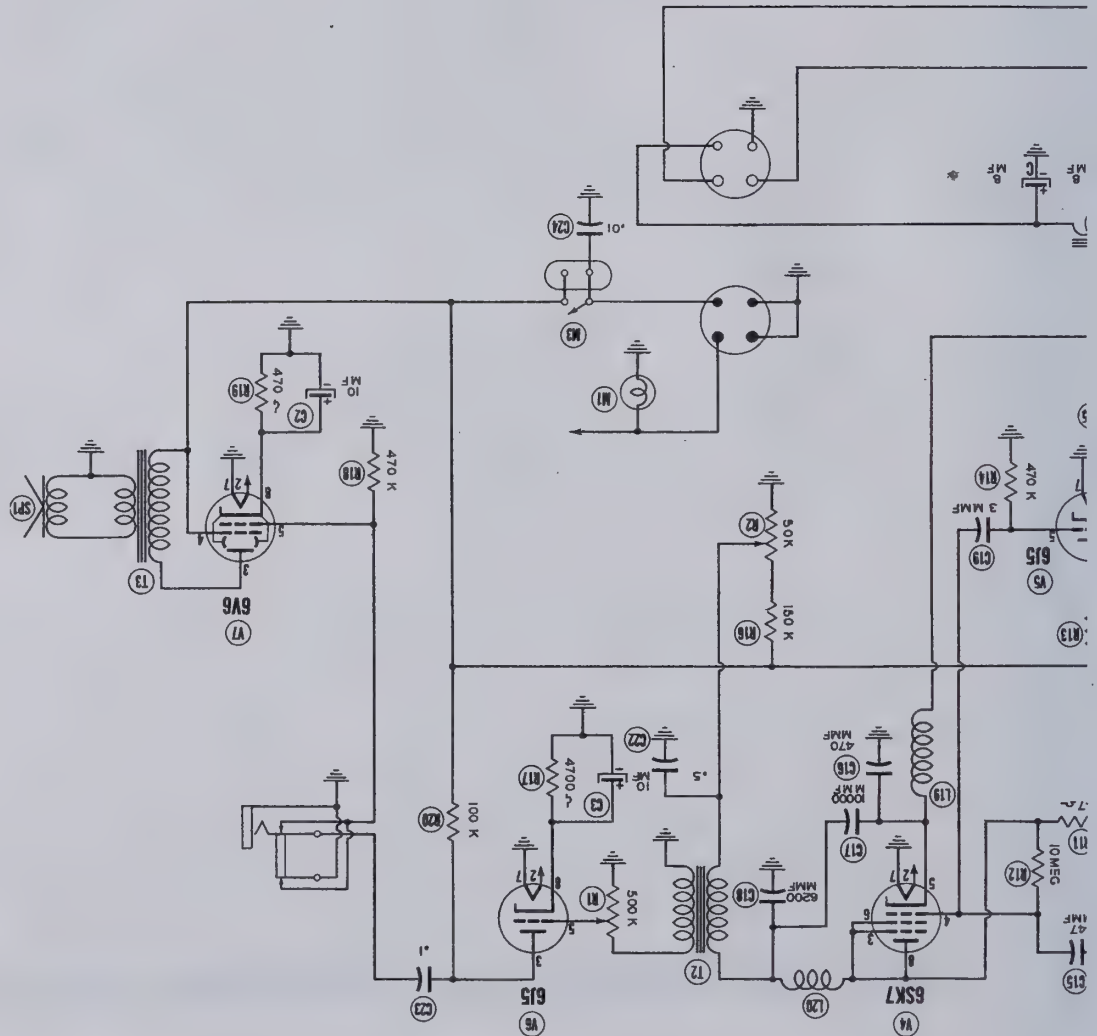
ns per volt; AC Voltages
on negative.
age readings.
es possible a variation of
ied for voltage measure-

ACTURE OF THIS
; YOU THIS SERVICE

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6AK5	270K Ω	.2 Ω	.2 Ω	.2 Ω	*2K Ω	1 Meg.	.0 Ω	.0 Ω
V 2	9002	*10K Ω	.0 Ω	.2 Ω	*10K Ω	65K Ω	.0 Ω	.0 Ω	.0 Ω
V 3	6E67	.0 Ω	.2 Ω	250 Ω	.0 Ω	250 Ω	23K Ω	.0 Ω	*950 Ω
V 4	6E67	.0 Ω	.2 Ω	52K Ω	10 Meg.	1000 Ω	52K Ω	.0 Ω	52K Ω
V 5	6J5	.0 Ω	.0 Ω	*6K Ω	Int.	540K Ω	Int.	.2 Ω	390 Ω
V 6	6J5	.0 Ω	.0 Ω	.0 Ω	Int.	BR Ω	.0 Ω	.2 Ω	4.7K Ω
V 7	6V6GT	.0 Ω	.2 Ω	*1500 Ω	*900 Ω	470K Ω	Int.	.0 Ω	470 Ω
V 8	6Y3GT	Int.	90K Ω	Int.	260 Ω	Int.	260 Ω	Int.	90K Ω

* Measured from pin 8 of V8

RESISTANCE READINGS



Remember that vacuum tubes must be handled carefully.

Before inserting the tubes in the sockets, be sure that the filament knob is in the "OFF" position. Place the brass base of the tube in the socket and turn until the base pin drops into the slot; then press down gently on the tube and turn it to the right into position.

Radiola II is now ready to operate.

OPERATION

Set the "INTENSITY" knob at "0." Light the tube filaments to a brilliancy explained in the instructions accompanying the tube, by turning the "FILAMENT" knob from "0" toward "10." With new batteries, from 1 to 4 is an average setting, but this will increase as the batteries are used.

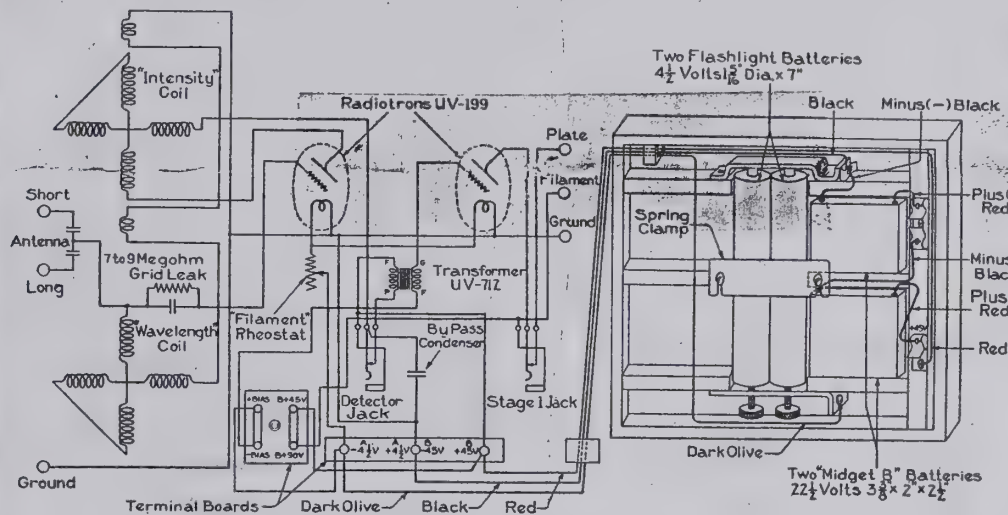


Fig. 4

Adjust the telephones snugly to the ears and insert the plug attached to the telephone cord in the jack marked "DETECTOR." A click should be heard on insertion or removal of the plug.

Turn the "WAVELENGTH" knob slowly until a signal is heard, and set it at the point where the signal is loudest. If no signals are heard or if they are very weak, slowly turn the "INTENSITY" knob clockwise, still searching for signals with the "WAVELENGTH" knob.

When signals are heard, turn the "INTENSITY" knob still farther, thus increasing the signal strength. Should it be advanced too far, a click will be heard in the telephones and then all signals will have a "mushy" sound. AT THIS POINT THE RECEIVER BECOMES A TRANSMITTER AND SERIOUSLY INTERFERES WITH NEIGHBORING RADIO RECEIVERS. THIS CONDITION OF OSCILLATION MUST BE AVOIDED, BUT IF IT DOES OCCUR, IMMEDIATELY TURN THE "INTENSITY" CONTROL BACKWARD SLIGHTLY UNTIL THE SIGNAL CLEARS UP.

To increase the signal strength still further, insert the telephone plug in "STAGE 1." This may require a slight readjustment of the "INTENSITY" knob.

The "VERNIER" knob provides a fine adjustment of the wavelength.

When the telephone plug is withdrawn, the amplifier or loud speaker, if either is connected, will be in circuit.

When the receiver is not in use, be sure to cut off the tube current by turning the "FILAMENT" knob to the "OFF" position.

POSSIBLE CAUSES OF FAULTY OPERATION

1. Poor or broken connections in antenna or ground wires, or defective insulation of antenna.
2. "FILAMENT" control improperly adjusted.
3. Improper adjustment of "INTENSITY," "WAVELENGTH," and "VERNIER" controls.
4. Batteries exhausted (indicated by low filament brilliancy or weak signals and noisy operation).
5. Battery connections improperly made, or broken.
6. Poor or broken connections in telephone cord or plug.
7. Grid leak omitted.
8. Inoperative vacuum tubes.

MANUFACTURED BY

GENERAL ELECTRIC COMPANY, U. S. A.

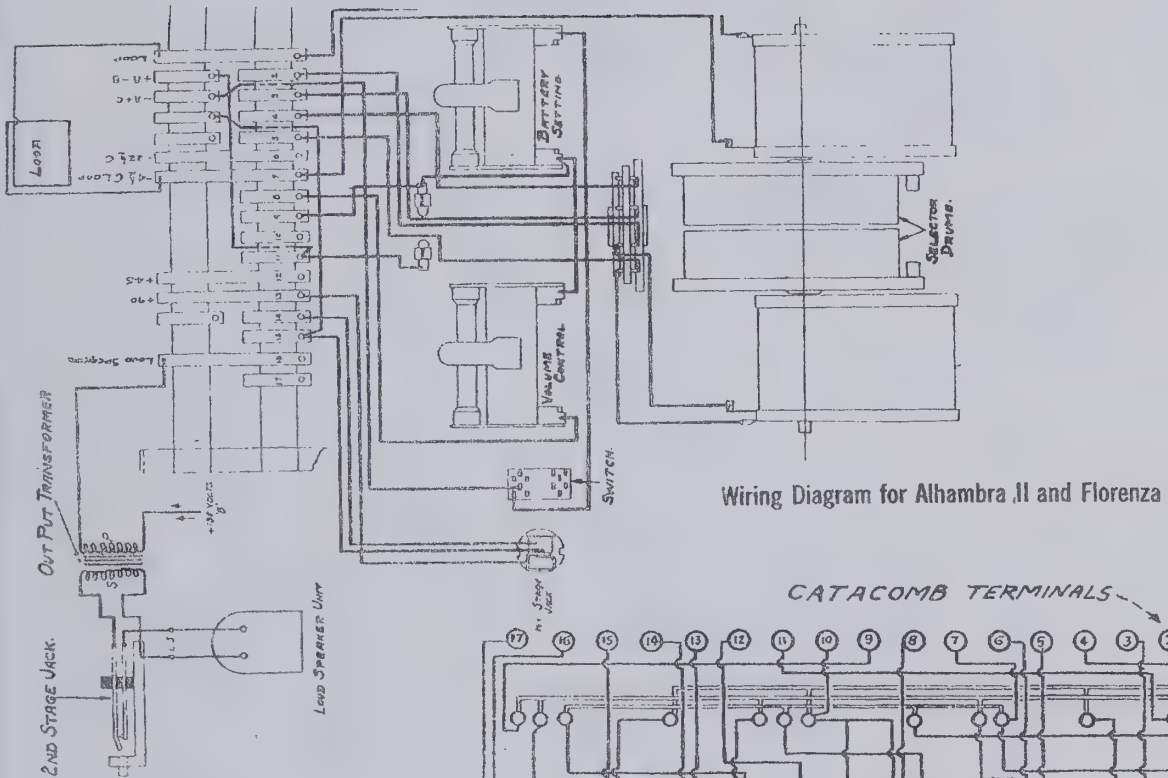
for

Radio Corporation
WORLD WIDE WIRELESS
of America
WOLFWORTH BUILDING - NEW YORK CITY

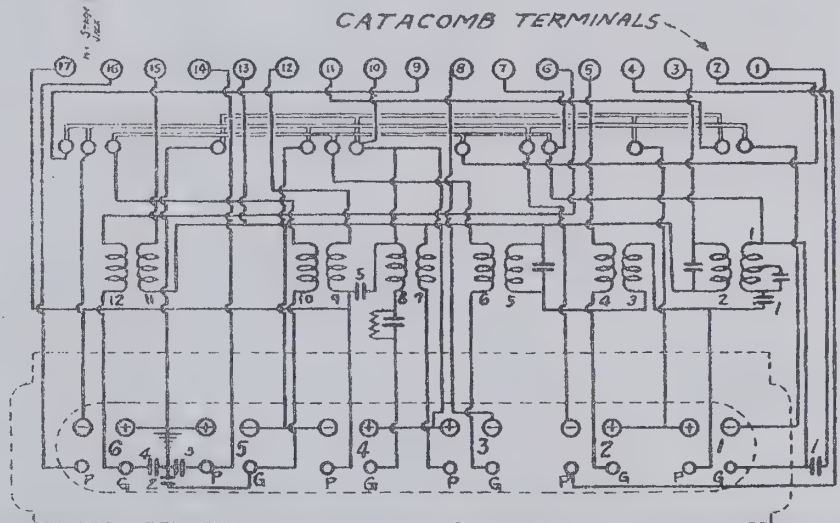
NAMI - WC Profit & Loss YTD Comparison February 2004

	Feb '04	Jan - Feb '04
Ordinary Income/Expense		
Contributions Income		
Restricted - Adult Consumer/ Ed	300.00	300.00
Restricted - In Our Own Voice	0.00	306.56
Restricted - Magnetic Minds	1,000.00	1,000.00
Unrestricted	2.00	160.00
Total Contributions Income	1,302.00	1,766.56
Fund Raisers		
Fund Raisers - Other	6.19	6.19
Total Fund Raisers	6.19	6.19
Investment Income (Loss)		
Smith Barney	671.93	671.93
Total Investment Income (Loss)	671.93	671.93
Membership Dues	228.00	981.00
Sales Tax Refunds	0.00	62.54
Total Income	2,208.12	3,488.22
Expense		
Contributions	215.00	215.00
Dues and Subscriptions	82.00	1,384.00
NAMI NC Dues	82.00	1,384.00
Total Dues and Subscriptions	82.00	1,384.00
In Our Own Voice		
Travel	0.00	106.56
Total In Our Own Voice	0.00	106.56
Insurance		
Insurance - Other	788.00	788.00
Total Insurance	788.00	788.00
Meeting expense	0.00	25.00
Newletter	190.73	190.73
Postage and Delivery	0.00	10.30
Telephone	9.95	19.90
Total Expense	1,285.68	2,739.49
Net Ordinary Income	922.44	748.73
Net Income	922.44	748.73

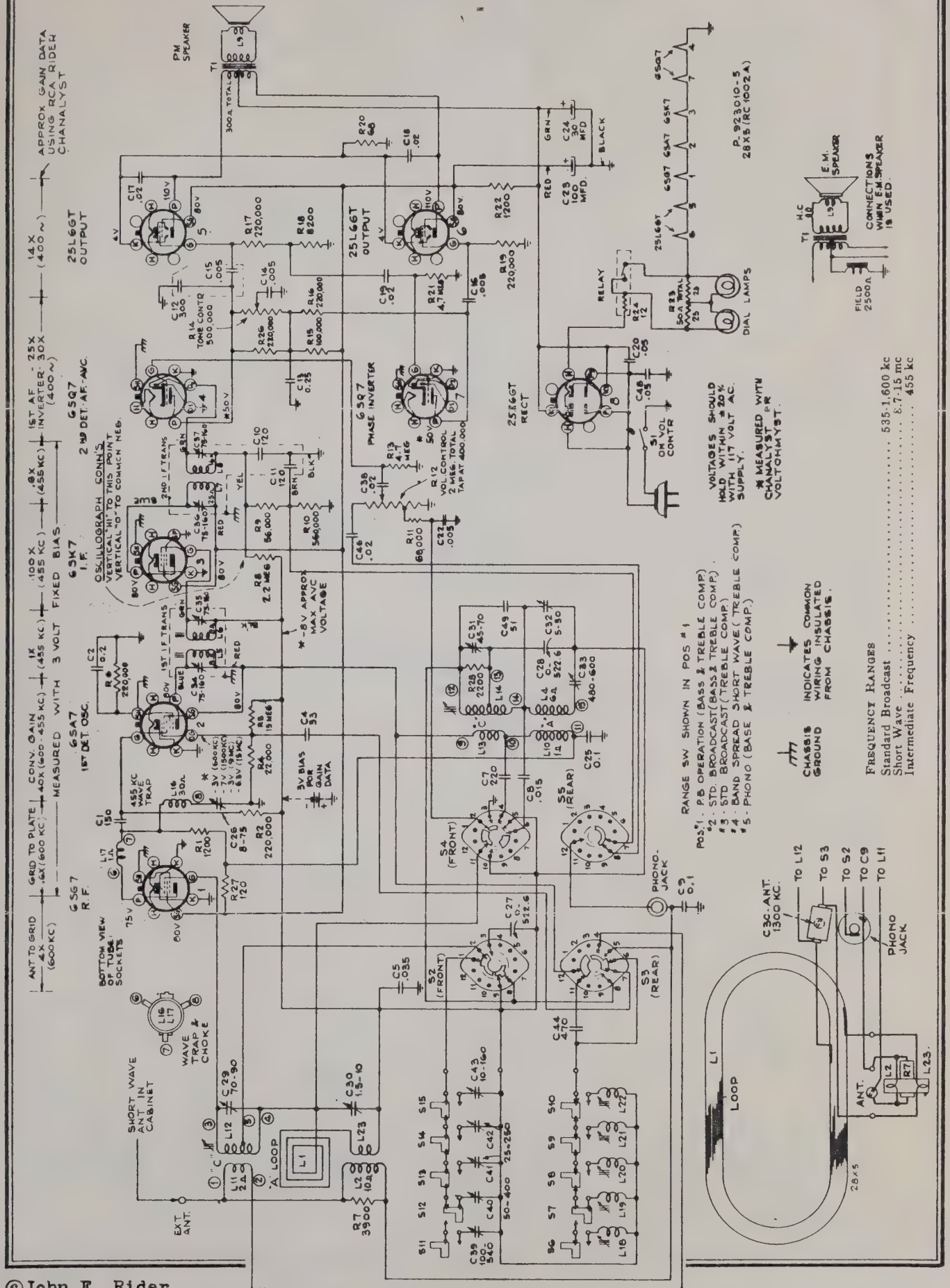
RCA
RADIOLA 25



Alhambra II (7-2) and Florenza (9-1)



RCA MFG. CO., INC.



LOUDSPEAKER

Type Elliptical 9x6 inches Perm. Mag.
V.C. Impedance 4 ohms at 400 cycles

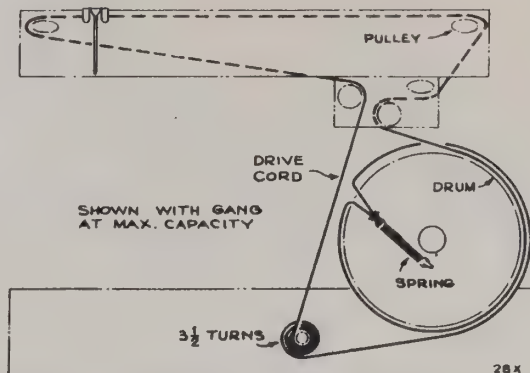
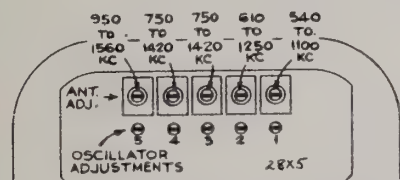
POWER OUTPUT RATING

Undistorted 2.5 watt
Maximum 4.0 watt

POWER SUPPLY RATING

105-125 A.C. 50-60 cy. or D.C. 45 watts

Thermal relay cuts in the dial lamps after the set warms up.—This set incorporates a thermal relay to control the dial lamps. When the set is "off," the relay contacts are closed. This shorts out the two lamps. When the set is turned "on," the heater current flows through the relay element R24. This heats up and causes the relay contacts to open, permitting the heater current to flow through the two dial lamps and light them. In normal operation, the lamps light about a half-minute after the set is turned on.

**Push Button Adjustment**

The station push buttons connect to separate magnetite-core oscillator coils and separate antenna trimmers which must be adjusted for the desired stations. Use an insulated screwdriver or alignment tool such as RCA Stock No. 31031. Allow at least five minutes warm-up period before making adjustments.

In the event that the receiver is to be used with an external antenna use one or two feet of wire (as an antenna) to ensure sharp peaking during the final adjustment procedure.

1. Make a list of the desired stations, arranged in order from low to high frequencies.

2. Turn the range selector to "A" band, and manually tune in the first station on the list.

3. After turning range selector to "PB" position, push in station button No. 1 (extreme left). Then adjust the No. 1 oscillator core to receive the station. It may be necessary to maintain approximate tracking between antenna and oscillator to receive weak stations.

4. After oscillator core is adjusted properly, adjust antenna trimmer No. 1 for maximum output.

Clockwise adjustment of cores and trimmers tunes the circuits to lower frequencies.

5. Adjust for each of the five remaining stations in the same manner.

6. Make a final careful adjustment of the oscillator cores and antenna trimmers.

On push-button No. 5, the higher frequency stations may be obtained with the oscillator core No. 5 either in or out. (Oscillator frequency either 455 kc below or above the signal.) The out position should be used so the oscillator is 455 kc above the signal.

Alignment Procedure

Output Meter Alignment.—Connect the meter across the voice coil, and turn the receiver volume control to maximum.

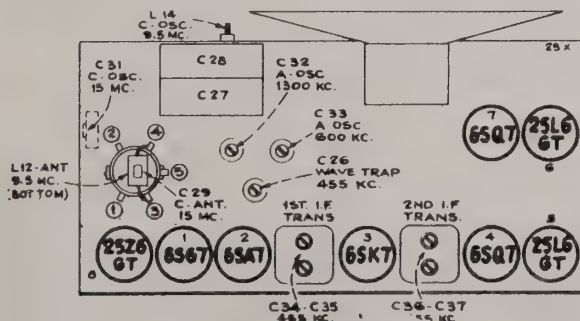
Test-Oscillator.—Connect the low side of the test-oscillator to the receiver chassis, through a .01 mfd., capacitor, and keep the output as low as possible.

Antenna.—The set is equipped with a built-in loop antenna. If an outdoor antenna is used, it may be connected to the "ANT" terminal on rear of cabinet. It should not be longer than 100 feet, including lead-in. If it is longer, connect a 100 to 200 mmf. capacitor in series with the lead-in.

Power-Supply Polarity.—For operation on d-c, the power plug must be inserted in the outlet for correct polarity. If the set does not function, reverse the plug. On a-c, reversal of the plug may reduce hum.

Phono Attachment.—A jack is provided on the rear of cabinet for connecting a Phono Attachment into the audio-amplifying circuit. The cable from the Phono Attachment should be terminated in a Stock No. 31048 plug to fit the jack.

Dial Pointer Adjustment.—The dial pointer should be set at the left-hand end dial marks, with the gang in full mesh.



Steps	Connect the high side of test osc. to—	Tune test. osc. to—	Range Switch to—	Turn radio dial to—	Adjust the following for max. peak output
1	I-F grid in series with .01 mfd.	455 kc	A	Quiet Point near middle of dial	C36, C37 2nd I-F trans.
2	Det. grid in series with .01 mfd.				C34, C35 1st I-F trans.
3	Ant. lead in series with 50 mmfd.	15 mc	C	15 mc	C31 (osc.)* C-29 (ant.)
4		9.5 mc	C	9.5 mc	L-14 (osc.) L-12 (ant.)
		Repeat steps 3 and 4.			
5	Antenna terminal in series with 200 mmfd.	1,300 kc	A	1,300 kc	C-32 (osc.) C-30 (ant.)
6		600 kc	A	600 kc	C-33 Rock in
7		Repeat steps 5 and 6.			
8	R-F grid in series with .01 mfd.	455 kc	A	low end of dial	C-26**

*Oscillator should track on high frequency side of signal.

If two peaks are obtained use high frequency (minimum capacity peak).

**Feed a high signal level of 455 kc into R-F. grid and adjust C-26 for minimum signal.

Critical Lead Dress

1. Dress all AC filament and power wiring down close to chassis and as far as possible from all audio grid or plate wiring.
2. Dress all leads or parts as far as possible away from oscillator coil.
3. Dress audio coupling capacitor C38 from volume control to grid of 6SQ7 away from filament wire connecting No. 8 pin socket 5 and No. 8 pin socket 7.
4. Dress lead from trimmer condenser on loop to S.W. ant. coil between rectifier and R.F. tube and away from other coil leads.
5. Dress I-F plate and grid leads back into the shield can to keep exposed length as short as possible.

RCA MFG. CO., INC.

Q27

Capacitor C33:

C33 is changed from 18 to 15 mmfd., Stock No. 12896.

28T

C13 Connections Changed:

In some production, C13, from the plate of the RF tube, is connected to the switch, side of C8 instead of to the grid side of C8.

C51 Deleted:

In 2nd production, C51 (22 mmfd.), Stock No. 14021, connected from antenna terminal to chassis, is omitted.

28X

Change in 2nd Production:

In 1st production, a capacitor C47 is connected from chassis to the junction of R1 and R27 in the RF plate circuit. In 2nd production, C47 is omitted, and terminal 11 on the oscillator coil is connected to the junction of R1 and R27 instead of to the "plus B" bus.

28X, 28X-5

C4 Changed to 47 mmfd:

The oscillator grid capacitor is changed from 33 to 47 mmfd., Stock No. 13141. (C4)

28X, 28X-5

Hum Modulation:

This form of hum becomes evident when a station's carrier is tuned in, and disappears when the set is tuned between stations. The hum may be present on only a few locals, or on many stations, depending, among other things, on the type and installation of the a-c supply line.

If hum modulation exists, check to see that there is an .05 mfd., 400-volt capacitor connected from the plate of the 25Z6GT rectifier to -B. Add this capacitor if necessary. The capacitor acts to by-pass RF signals around the rectifier tube.

29K2 (RC-570-P)

With 5-inch "EM" Speaker:

In 2nd production, the 5-inch speaker is changed from "PM" to "EM," as listed below:

SPEAKER ASSEMBLIES
(RL-86B-5)

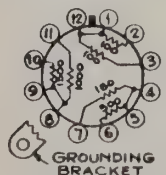
Stock No.	Description
39543	Coil—Field coil—450 ohms
39567	Cone—Cone complete with voice coil
30870	Plug—2-prong male plug for speaker
5118	Plug—3-prong male plug for speaker

Q31, 5Q66

Ballast Resistor Correction:

In the Service Data for Q31, the resistance between terminals 6 and 7 of the ballast resistor M-91462-3 should be 480 ohms instead of 580 ohms.

In the Service Data for 5Q66, the connections inside the ballast resistor M-91462-1 should be as shown in the accompanying drawing.



PLUG-IN RESISTOR

Ballast M-91462-1 in 5Q66.

25X, 34X, 35X

Electrolytic Capacitor:

Under "Chassis Assemblies," in the Replacement Parts Lists of the above models, delete Stock No. 36301 Capacitor and add:

Stock No.	Description	Unit List Price
35348	Capacitor—Electrolytic comprising 1 section of 30 mfd., 150 volts (C19-25X; C16-34X, 35X) and 1 section of 20 mfd., 150 volts (C20-25X; C-17-34X, 35X).....	.95

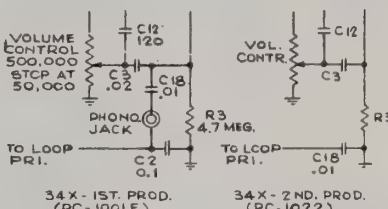
34X—2ND PROD. (RC-1022)

Service Data:

Model 34X—2nd Production (RC-1022) is similar to the 34X—1st Production (RC-1001-E) except as follows:

The phonograph jack has been omitted in 2nd production as shown in the accompanying sketches.

A different loop is used.



Circuit Changes, 2nd Production 34X

For replacement parts list, refer to the Service Notes for 34X (RC-1001-E) with the exception of the following parts used in the 34X—2nd Production (RC-1022):

Stock No.	Description	Unit List Price
35348	Capacitor—Electrolytic, comprising 1 section of 20 mfd., 150 volts (C17), and 1 section of 30 mfd., 150 volts (C16).....	.95
12723	Capacitor—56 mmf.....	.35
39628	Capacitor—100 mmf.....	.35
36248	Capacitor—.02 mfd.....	.20
34298	Capacitor—.01 mfd.....	.30
34662	Cord—Drive cord (approx. 33-in. overall length).....	.25
35078	Knob—Range switch knob.....	.15
39822	Loop—Antenna loop.....	1.70
31251	Socket—Tube socket—wafer.....	.25
37605	Socket—Tube socket—moulded.....	.25
37364	Transformer—Second I. F. transformer.....	1.35

SPEAKER ASSEMBLIES
(RL-86B-1)

32907	Cap—Dust cap.....	.02
39448	Coil—Field coil—350 ohms.....	1.30
39447	Cone—Cone complete with voice coil.....	1.20

32907	Cap—Dust cap.....	.02
39448	Coil—Field coil—350 ohms.....	1.30
39447	Cone—Cone complete with voice coil.....	1.20

39995	Coil—Field coil—350 ohms.....	1.50
39994	Cone—Cone complete with voice coil.....	1.20

NOTE: If the stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument. Number stamped on speaker, and full description of part required.

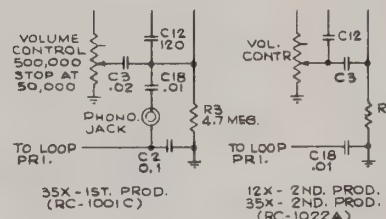
35X—2ND PROD. (RC-1022-A)
12X—2ND PROD. (RC-1022-A)

Service Data:

Models 12X—2nd Production and 35X—2nd Production are identical except for cabinet design. The RC-1022-A chassis used in both these receivers is similar to the RC-1001-C chassis used in Model 35X—1st Production, except that the phonograph jack of the 1st Production 35X has been omitted in the RC-1022-A chassis, as shown in the accompanying sketches.

For replacement parts list for both receivers, refer to the Service Notes for 35X (RC-1001-C) with the exception of the following parts used in the 12X—2nd Production and 35X—2nd Production:

Stock No.	Description	Unit List Price
35348	Capacitor — Electrolytic, comprising 1 section of 20 mfd., 150 volts (C17), and 1 section of 30 mfd., 150 volts (C16).....	.95
36248	Capacitor—.02 mfd.....	.20
34298	Capacitor—.01 mfd.....	.30
34662	Cord — Drive cord (approx. 33-in. overall length).....	.25
39823	Loop—Antenna loop.....	1.43
31251	Socket—Tube socket—wafer.....	.25
37605	Socket—Tube socket—moulded.....	.25
37364	Transformer—Second I. F. transformer.....	1.35

Circuit Changes, 2nd Production
12X and 35X

SPEAKER ASSEMBLIES

32907	Cap—Dust cap.....	.02
39448	Coil—Field coil—350 ohms.....	1.30
39447	Cone—Cone complete with voice coil.....	1.20

32907	Cap—Dust cap.....	.02
39448	Coil—Field coil—350 ohms.....	1.30
39447	Cone—Cone complete with voice coil.....	1.20

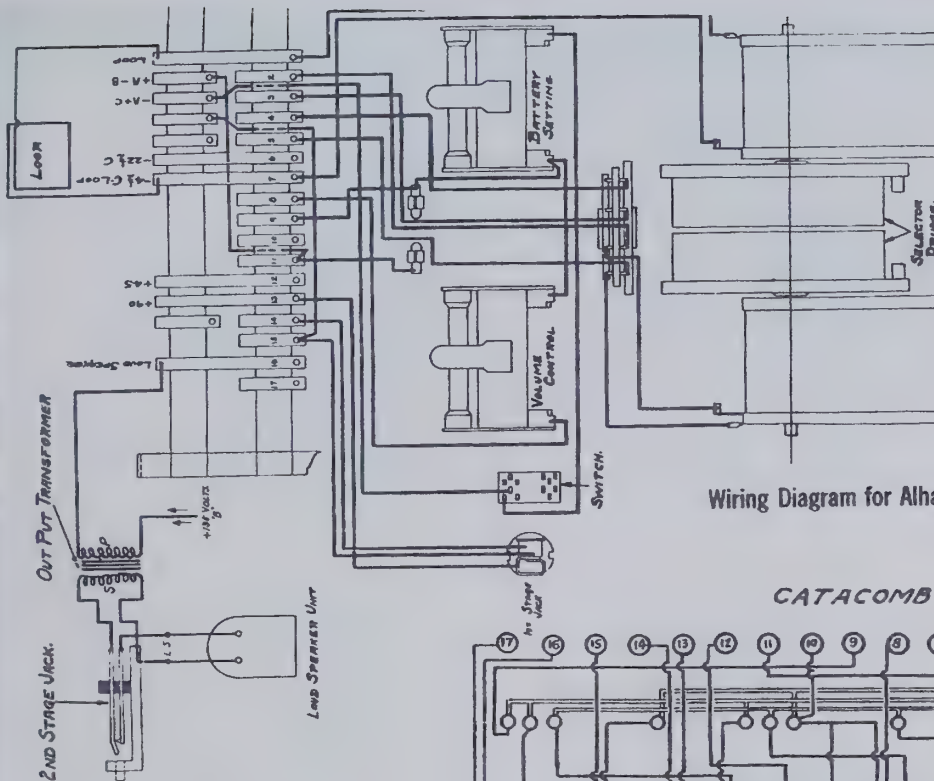
39995	Coil—Field coil—350 ohms.....	1.50
39994	Cone—Cone complete with voice coil.....	1.20

NOTE: If the stamping on speaker in instrument does not agree with above speaker number, order replacement parts by referring to model number of instrument, number stamped on speaker, and full description of parts required.

MISCELLANEOUS ASSEMBLIES

37906	Back—Cabinet back (12X—2nd Prod.).....	.25
39775	Back—Cabinet back (35X—2nd Prod.).....	.30
37362	Clamp—Dial clamp (12X—2nd Prod.).....	.20
37363	Dial—Glass dial scale (12X—2nd Prod.).....	.75
39780	Dial—Glass dial scale (35X—2nd Prod.).....	1.50
37831	Fastener—Push fastener (12X—2nd Prod.).....	.10
37907	Handle—Carrying handle (12X—2nd Prod.).....	.35
35078	Knob—Volume or tuning knob (12X—2nd Prod.).....	.15
36722	Knob—Volume or tuning knob (35X—2nd Prod.).....	.20
37909	Mounting—Carrying handle mounting hardware (12X—2nd Prod.).....	.10

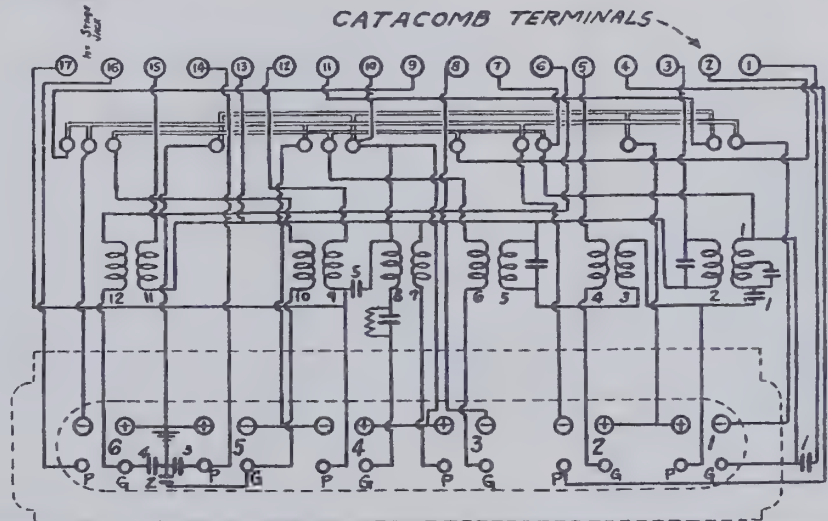
RCA RADIO LA 25



Wiring Diagram for Alhambra II and Florenza

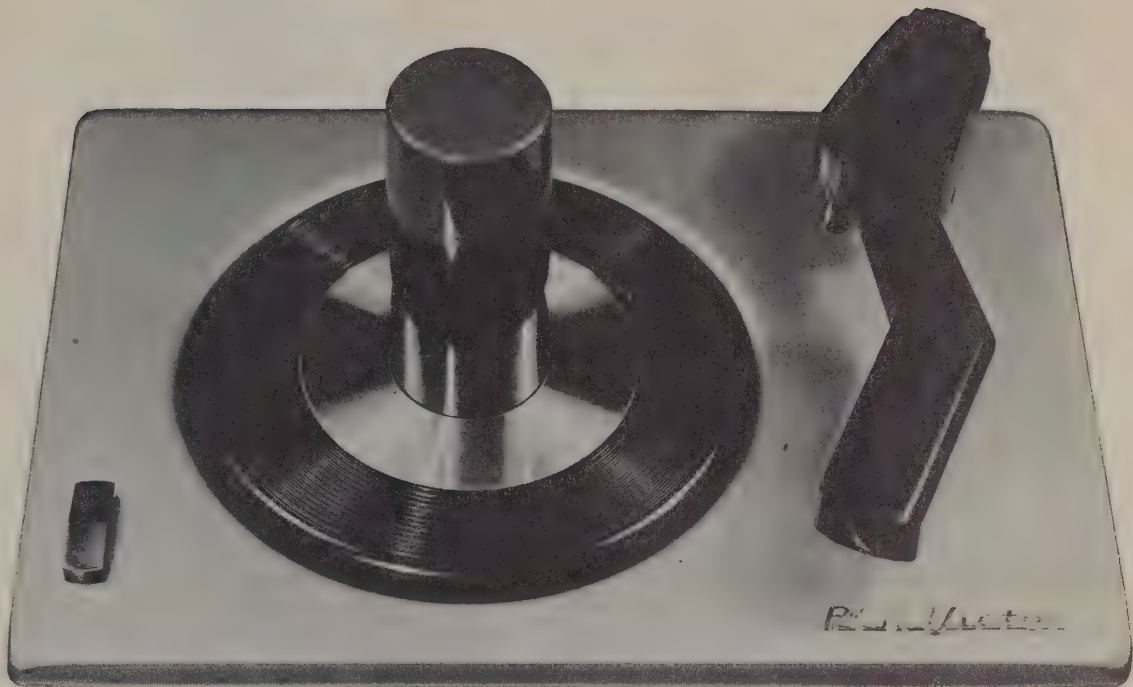
Radiola 25 Catacomb Continuity Diagram for

Alhambra II (7-2) and Florenza (9-1)





RCA VICTOR
MODEL RP-190 Series



RCA VICTOR
MODEL RP-190 Series

Figure 1

GENERAL INFORMATION

The RCA Victor Model RP-190 Series Changer is designed to play and change automatically up to twelve 7" 45 RPM fine-groove records, in sequence, at a single loading. This changer is of the new "Spindle-Loading," "Rapid-Changing" type. It is designed to operate from a supply of 105-125 Volts, 60 Cycles A.C. The last record will be repeated until the changer is turned off.

Manufactured by:

Radio Corporation of America
RCA Victor Division
Camden, New Jersey

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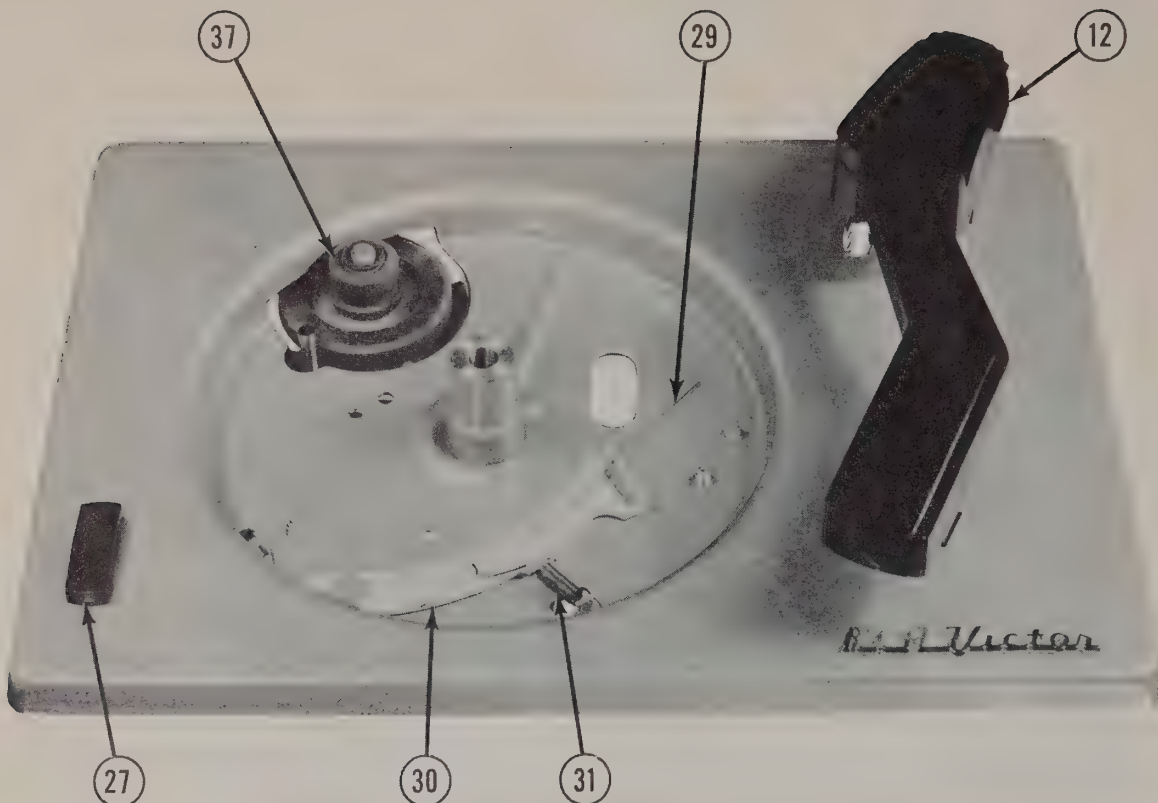


Figure 2

AUTOMATIC OPERATION

1. Insert the pin plug into the phone jack of a radio or other amplifier.

2. Insert the power plug into convenient wall receptacle supplying power of 115 volts, 60 cycles A.C.

3. Place the changer on a flat surface, making sure it is level.

4. Remove the cardboard tube from pickup arm and lower the pickup arm on the arm rest.

5. Place up to twelve 7" fine-groove records on the spindle, allowing them to come to a rest on the record supports (4).

6. Pull the control knob (27) forward until a click is heard; this turns the motor on and starts the turntable rotating. By pulling the control knob all the way forward, the mechanism is tripped and the automatic operation is started. The entire stack of records is then played, in sequence, on one side only. The volume and tone are then regulated by the controls on the instrument to which the changer is attached.

7. To reject a record while playing, pull the control knob (27) forward and release.

8. To repeat a record being played, remove all remaining records from the separator shelf (4). The remaining record will continue to repeat until additional records are replaced on the spindle, or the control knob (27) is moved to the "Off" position.

CAUTION: 1. Do not handle the pickup arm while the mechanism is in cycle.

2. Do not use force to release a jam.

3. Do not try to remove the records on the turntable if the mechanism is stopped in cycle.

4. If the separator knives (3) protrude from the center post when the mechanism is out of cycle, move the control knob (27) to "Reject" and the condition should be corrected automatically.

CHANGE CYCLE

The change cycle is started by pulling the control knob (27) to the "Reject" position. This actuates the reject lever (30), causing the reject lever spring (29) to move against the stud (73A) of the eccentric cycling cam (73). A slight movement of the eccentric cycling cam is sufficient for the cycling cam to engage

the rotating knurled roller (57), which is mounted on the turntable shaft.

The cycling cam wheel (73), which is mounted on the cycling slide (80), pushes the slide in the direction of the pickup arm pivot. As the slide (80) moves toward the pivot point, the spring (74) tension is increased. Also, tab (80A) of the slide moves back permitting the muting switch (81) to close.

As the slide (80) continues to move back, the incline (80C) moves against the elevating rod (23) and, in turn, raises the pickup arm from the record. The step in the slide then engages the stud (X) of the trip lever (67), pivoting the lever and pickup arm outward (see Figure 3). At the same time this takes place, the eccentric landing adjustment screw (68) contacts and pushes the pickup arm return lever (61) against the tension of the return spring (62).

As the cycling slide (80) reaches its full limit of travel, the stop dog (80B), which is mounted to the slide, engages the rotating ratchet wheel (75). The ratchet wheel (75) and separator shaft (7) then remain stationary as the turntable continues to rotate. The separator shelves and knives are coupled together in such a manner that the flattened end of the separator shaft (7) pushes the knives (3) out, which, in turn, pulls the opposite shelves in. As the shelves (4) recede, the separator knives (3), mounted above the shelves, move out and separate the lower record of the stack and support the remaining records while the lower record drops to the turntable.

At this point, due to the shape of the eccentric cycling wheel (73) and the tension of spring (74), the slide (80) moves away from the pickup arm pivot. The stud (X) on the trip lever (67) assembly follows the slide due to the force produced by the spring (62) on the return lever (61). After the slide has moved back a short distance, the landing adjustment stud (68) engages the step on the end of the return lever (61) pulling stud (X) away from the slide. At this point, the pickup is directly above the point of landing. The elevating rod (23) now rides down the incline (80C) lowering the pickup arm to the record. At approximately the same time tab (80A) of the slide contacts and opens the muting switch, stud (80D) pushes against the pickup return lever to permit free motion to the pickup arm.

The change cycle is completed as the slide moves against the stop bracket (43), at which time the knurled roller (57) rotates in the cutaway section of the cam (73).

As the pickup arm moves toward the center of the record, the trip lever assembly (67) is pivoted inward. When the needle enters the cycling groove of the record, the trip (67A) contacts the flange (73B) and pushes it slightly. This slight movement of the cycling cam causes it to engage the rotating knurled roller (57), thereby starting a new change cycle.

ADJUSTMENTS

Pickup Arm Set-Down (Refer to Figure 3) -

Under normal conditions, the pickup arm set-down is adjusted by the eccentric adjustment stud (68). The adjustment of the eccentric landing adjustment stud (68) gives approximately a 1/4" movement. If, how-

ever, the pickup arm has been removed, make the adjustment as follows:

1. Rotate the adjustment stud (68) to a midway position.

2. With the changer out of cycle and the clamp screw (21) loose, place the pickup arm on the arm rest; then, tighten the clamp screw (21) enough so that the clamp (20) will not slip on the pickup arm shaft.

3. With the power removed, pull the control knob (27) to the "Reject" position; then, rotate the turntable, by hand, in a clockwise direction until the pickup arm starts to lower.

4. Loosen the clamp screw (21). Hold the trip lever assembly (67) in a position so that the adjusting stud (68) engages the step in the return lever (61); then, move the pickup arm to the position where the stylus is directly above the starting groove of the record. Then, tighten the clamp screw (21), being careful not to move the pickup arm.

5. A fine adjustment may now be made by the eccentric landing stud (68).

Pickup Arm Height (Refer to Figure 3) -

The correct height adjustment is when the stylus clears the turntable by approximately 1-1/8" during the change cycle. This adjustment is determined by turning the knurled nut (71). Turning this nut in raises the pickup arm, and turning it out lowers the arm.

NOTE: If unable to adjust for proper height, it may be necessary to cut a few turns from the compression spring (70) to allow more space on the shaft.

Tripping Adjustment (Refer to Figure 3) -

The tripping point of the changer is adjusted by the trip adjustment stud (64). The stud (64) should be adjusted so that, when the needle enters the eccentric cycling groove of the record, the mechanism will be put into cycle.

Mounting Bracket Adjustment (Refer to Figure 3) -

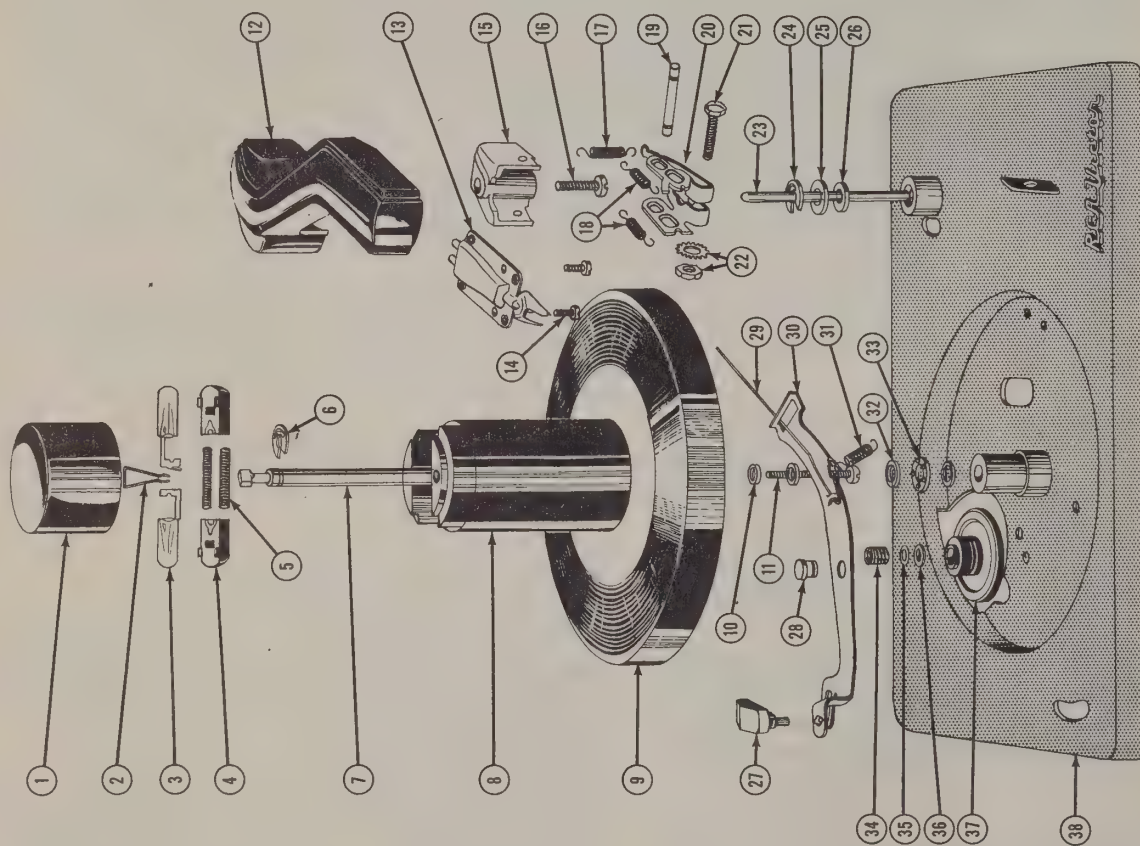
Loosen the two mounting screws (45) and move the bracket (43) back or forward until the cutaway section of the cycling cam (73) clears the knurled roller (57) by approximately 1/16". Tighten the screws. When making this adjustment, keep the bracket (43) as nearly perpendicular to the slide (80) as possible.

Muting Switch Adjustment (Refer to Figure 3) -

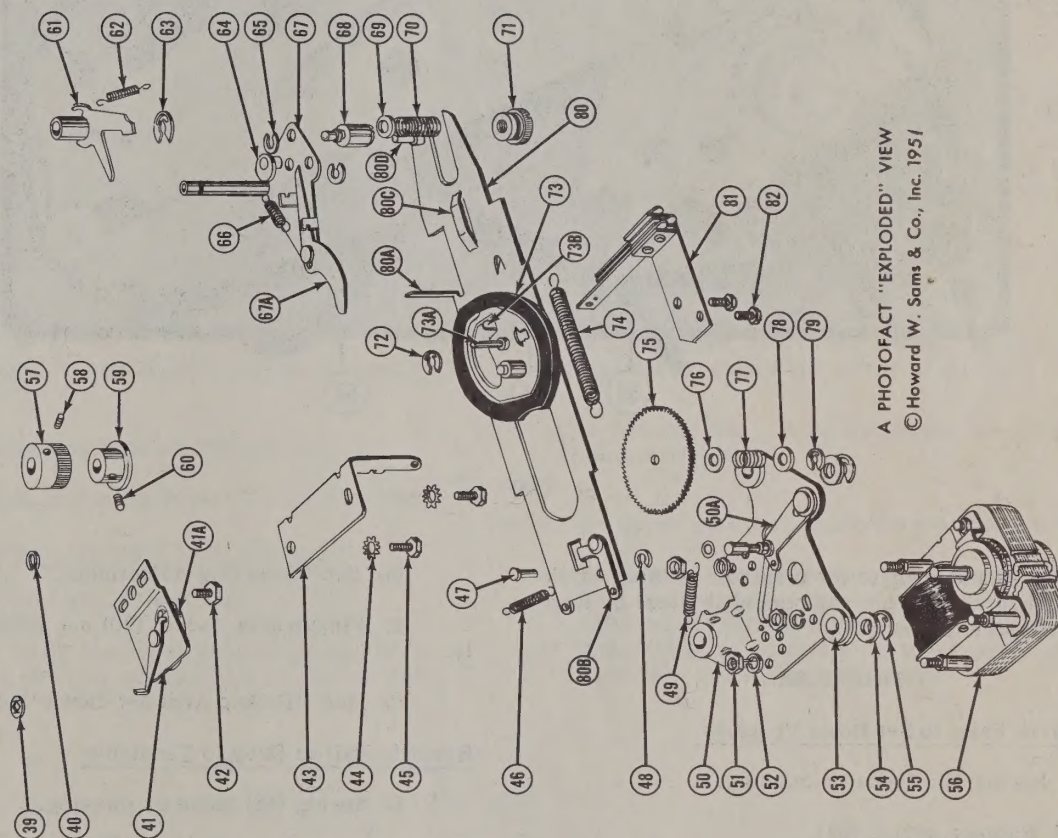
The contacts should be approximately 1/32" to 1/16" apart when the mechanism is out of cycle. To make this adjustment, loosen the two mounting screws (82) and adjust the bracket (81). If the mounting screws do not give sufficient adjustment, bend the tab (80A) on the slide slightly.

Stop Dog Adjustment (See Figure 3) -

During the change cycle, the stop dog (80B) engages the ratchet wheel (75), which, in turn, actuates the spindle assembly, thereby dropping a record to the turntable. With the stop dog (80B) properly adjusted,



RCA VICTOR **MODEL RP-190 Series**



A PHOTOFACT "EXPLODED" VIEW
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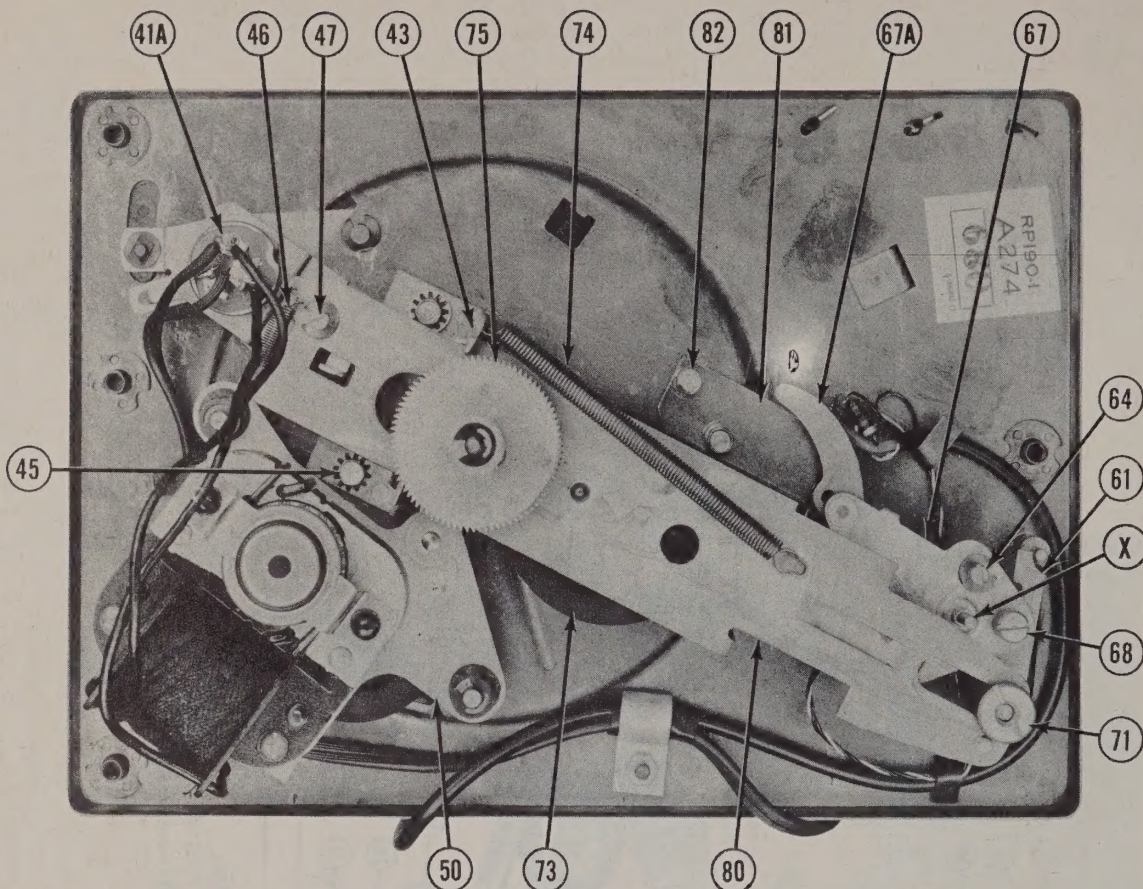


Figure 3

the record should drop to the turntable without striking the pickup arm. This adjustment is made by turning the eccentric screw (47)

TROUBLES

Pickup Arm Fails to Set Down Properly -

1. Spring (62) loose or missing.
 - (a) Replace spring (62).
2. Pickup arm out of adjustment.
 - (a) See "Pickup Arm Set-Down" Adjustment.
3. Pickup arm swivel (20) loose on shaft.
 - (a) See "Pickup Arm Set-Down" Adjustment.

Pickup Arm Fails to Clear a Stack of Records on Turntable -

1. Pickup arm height out of adjustment.
 - (a) See "Pickup Arm Height" Adjustment.

Records Hit Pickup Arm When Dropping to Turntable -

1. Stop dog (80B) out of adjustment.

(a) See "Stop Dog Adjustment."

2. Pickup arm swivel (20) not adjusted properly.

(a) See "Pickup Arm Set-Down" Adjustment.

Records Fail to Drop to Turntable -

1. Spring (46) loose or missing.
 - (a) Replace spring.
2. Ratchet wheel thrust spring (77) broken, thereby not maintaining the frictional condition set up between the ratchet (75) and the friction collar (59).
 - (a) Replace the thrust spring (77).
3. Stop dog (80B) binding in an outward position.
4. Friction collar (59) may be loose.

Distorted or No Output -

1. Muting switch (81) may be improperly set.
 - (a) See "Muting Switch Adjustment."
2. Pickup cartridge (13) may be defective.
3. Stylus may be defective.

- Pickup leads may be shorted.

Pickup Skips Grooves -

- Defective stylus.
- Check for binds in the pickup arm pivots.
- Stud (80D) may be loose, bent or missing.

Mechanism Fails to Trip Automatically -

- Tab (73B) may be bent.
 - Straighten tab so that it is perpendicular to the cam.
- Cycling cam (73) may be defective.
- Cycling cam may be binding on shaft.
- Knurled roller (57) may be loose on turntable shaft.
- Tripping stud (64) may be out of adjustment.
 - See "Tripping Adjustment."
- Trip lever spring (66) may be loose or missing
 - Replace spring.

Continuous Tripping -

- Mounting and stop bracket (43) out of adjustment.
 - See "Mounting Bracket Adjustment."
- Cam shaft on cycling wheel (73) may be bent.

Mechanism Fails to Complete Change Cycle -

- Spring (74) loose or missing.
 - If the slide assembly return spring (74) is loose, the cycling wheel (73) will not be held

against the knurled roller (57). Replace spring.

- Knurled roller (57) may be loose.

"Wow" or Speed Variation -

- Turntable bearing (33) may be defective.
- Mounting carriage (50A) for idler wheel may be binding.
- Spring (49) tension insufficient, or spring may be loose.
- Oil or grease on turntable rim and idler wheel.
 - Clean with carbon tetrachloride.

LUBRICATION

The mechanism has been lubricated at time of manufacture, which should be sufficient for a long period of time; however, due to extreme usage, dust, lint or extreme heat, it may be necessary to thoroughly clean with carbon tetrachloride and lubricate as follows:

Use a light machine oil (SAE No. 10) on the bearings of the drive motor.

Use Sta-Put No. 320, or equivalent, on all bearing surfaces, except the motor bearings.

Use Sta-Put No. 512, or equivalent, on all other sliding surfaces.

NOTE: Do not oil or grease record separator shelves.

Do not let any grease or oil come in contact with the turntable rim or rubber surfaces of idler wheel (37) on motor. If oil or grease does come in contact with these parts, clean them with carbon tetrachloride.

PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	75755	Spindle Cap	12	75719	Pickup Arm Shell Only
2	748862	Spindle Nose Spring	13	75476	Cartridge Complete with Stylus (RP190-1)
3	74864	Separator Knife	14	75722	No. 4 x 1/4" Fillister Head Screw
4	74865	Separator Shelf	15	75721	Counterbalance Weight
5	75756	Separator Shelf Return Spring (.118" O.D. x 3/4" -16 Turns)	16	75723	No. 6 x 11/16" Fillister Head Screw
6	33726	"C" Washer to Hold Separator Shaft and Cam	17	75886	Counterbalance Spring (.180" O.D. x .600" - 30 turns)
7	75757	Separator Shaft with Cam	18	75727	Shock Absorbing Spring (.187" O.D. x 3/4")
8	75753	Turntable	19	75724	Pin for Anchoring Shock Absorbing Springs
9	75754	Turntable Disc (Part of Item 8)	20	75720	Pickup Arm Swivel
10	74869	No. 6 Flat Washer	21	75726	No. 8-32 x 5/8" Screw
11	75758	No. 6-32 x 1" Fillister Head Machine Screw			

PARTS LIST (Cont'd)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
22	75725	No. 8-32 x 5/8" Hex Nut	53	75761	Rubber Grommet for Motor Mounting Plate
23	75731	Internal Tooth Lockwasher	54	75749	Flat Washer - Metal (.0299" x .190" I.D. x 3/8" O.D.)
24	35969	Elevating Rod	55	33726	"C" Washer
25	75752	"C" Washer	56	76760	Motor - 117 Volts, 60 Cycles A.C.
26		Thrust Washer	57	75737	Knurled Roller
27	75741	Bronze Bearing	58	75761	No. 10-32 x 17/64" Headless Set Screw Dog Point
28	75748	Control Knob	59	75736	Friction Collar
29	75740	Reject Lever Mounting Stud	60	14974	No. 8-32 x 3/16" Headless Set Screw Dog Poing
30	75739	Reject Lever Spring	61	75734	Return Lever
31	75742	Reject Lever Complete with Formed Spring	62	75745	Pickup Arm Return Lever Spring (.195" O.D. x 1-1/4 - 66 turns)
32	74080	Reject Lever Return Spring (.180" O.D. x .535" - 21-1/2 turns)	63	35969	"C" Washer to Mount Return Lever
33	72349	Thrust Bearing Washer	64	75768	Tripping Adjustment Stud
34	74870	Thrust Bearing	65	74431	Spring Washer for Adjusting Studs
35	75887	Idle Wheel Retainer (spring sleeve type)	66	75742	Trip Lever Spring (.180" O.D. x .535" - 21-1/2 turns)
36	74078	Spring Washer for Idle Wheel	67	75767	Trip Lever Assembly Less Spring and Tripping and Landing Adjustment Studs
37	74077	Dampening Washer for Idle Wheel	68	75769	Landing Adjustment Stud
38	75729	Idle Wheel	69	75749	Flat Washer-Metal (.0299" x190" I.D. x 3/8" O.D.)
39	74212	Baseplate	70	75746	Height Adjustment Spring (.262" O.D. x 13/16" - 8 turns)
40	74431	Speed Nut for Control Knob	71	75747	Knurled Nut for Height Adjustment
41	75732	Spring Washer to Mount Reject Lever Mounting Stud	72	33726	"C" Washer for Cam Wheel
41A	75733	"On-Off" Switch Housing and Lever Less Switch	73	75764	Cam Wheel and Tire
42		"On-Off" Switch	74	75744	Slide Assembly Return Spring (1/4" O.D. x 2-23/32" - 90 turns)
43	75735	No. 8 x 1/4" Self-Tapping Hex Head Screw for Mounting Item 41	75	75738	Ratchet Wheel
44		Mounting Bracket for Slide Assembly	76	76750	Flat Washer - Metal (.0299" x .180" I.D. x 9/16" O.D.)
45	No. 8 External Teeth Lockwasher		77	75743	Ratchet Wheel Thrust Spring (5/16" O.D. x 7/16" - 5-1/2 turns)
46	74670	No. 8 x 3/8" Self-Tapping Hex Head Screw	78	75750	Flat Washer - Metal (.0299" x .180 I.D. x 9/16" O.D.)
47	76765	Stop Dog Tension Spring (.195" O.D. x 11/16" -24-1/2 turns)	79	33726	"C" Washer to Mount Ratchet Wheel
48	75766	Adjusting Stud for Stop Dog	80	75763	Cycling Slide Assembly Complete with Stop Dog Less Cam Wheel and Stop Dog Adjusting Stud
49	74431	Spring Washer for Stop Dog Adjusting Stud	81	75730	Muting Switch
50	75762	Idle Wheel Tension Spring (.195" O.D. x 29/32" - 37-1/2 turns)	82		#8 x 1/4" Self Tapping Hex Head Screw
51	75759	Plate - Motor Mounting Plate Complete with Idle Wheel			
52		No. 6-32 Hex Nut			
		No. 6 Split Lockwasher			